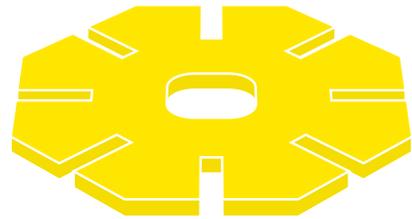
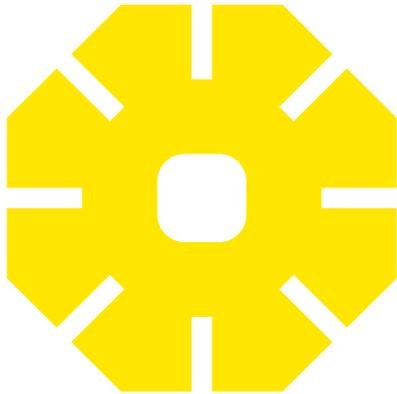
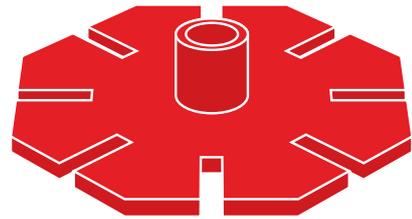
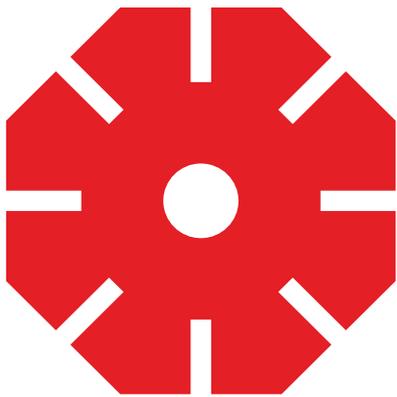


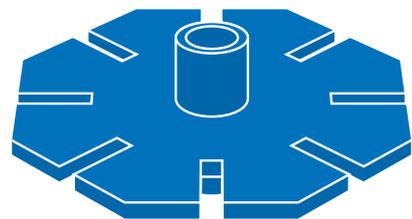
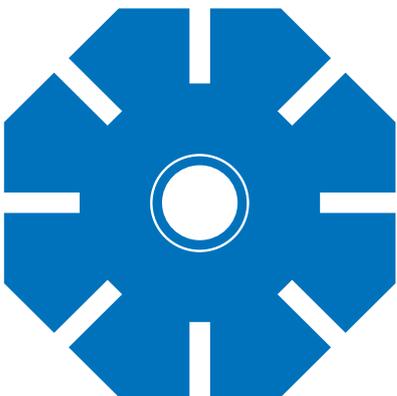
## The Pieces



Octoplay

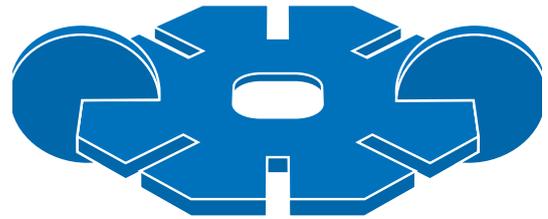
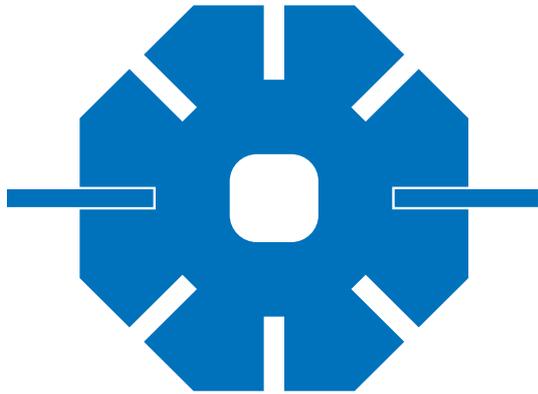


Single peg

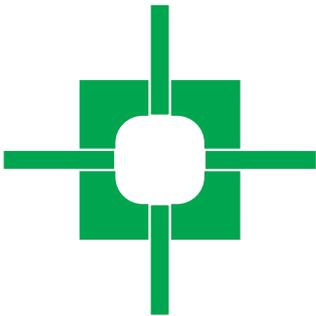


Twin peg

## The Pieces



Twin disc



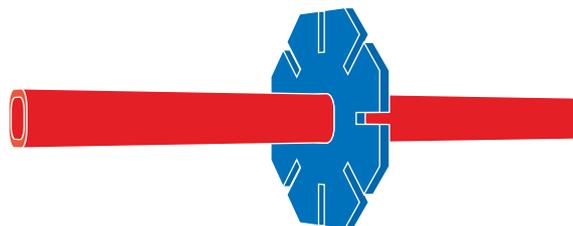
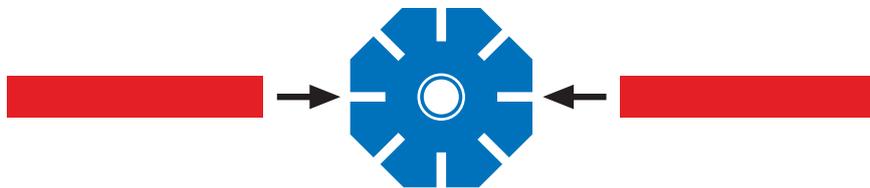
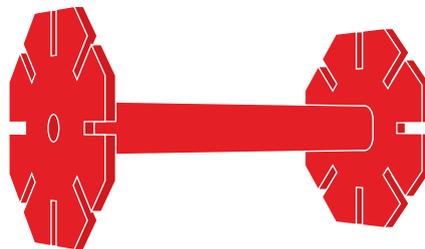
Quad disc



Strut

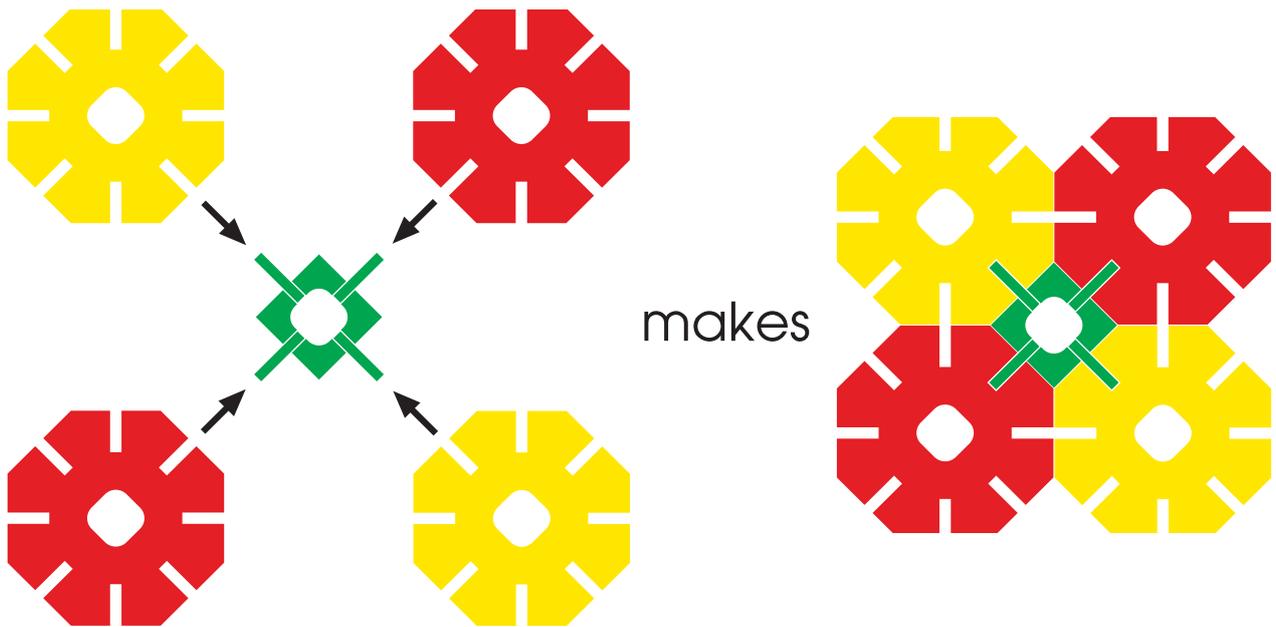
# Information

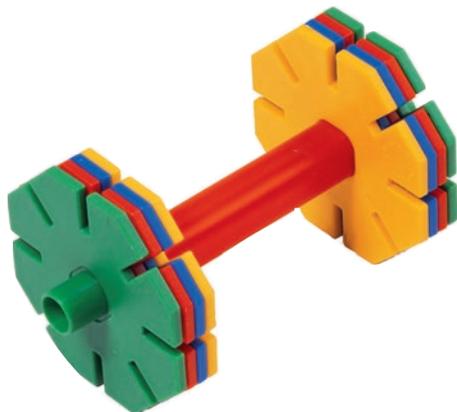
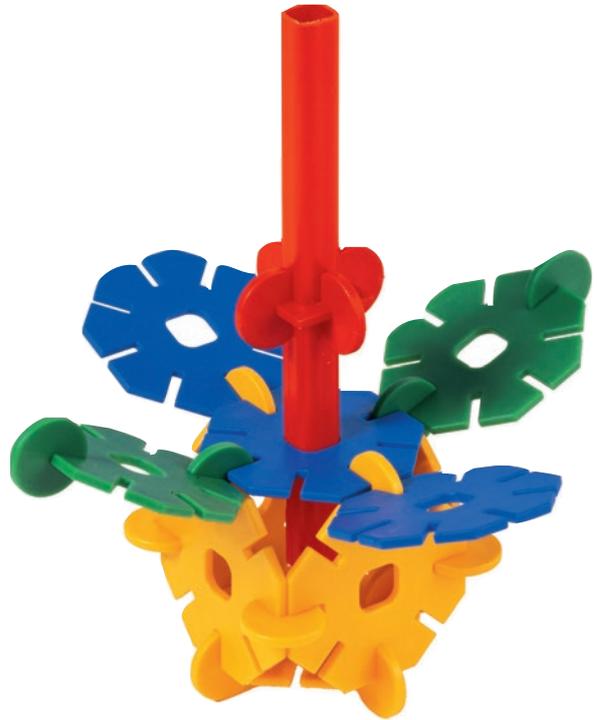
## How to join the pieces



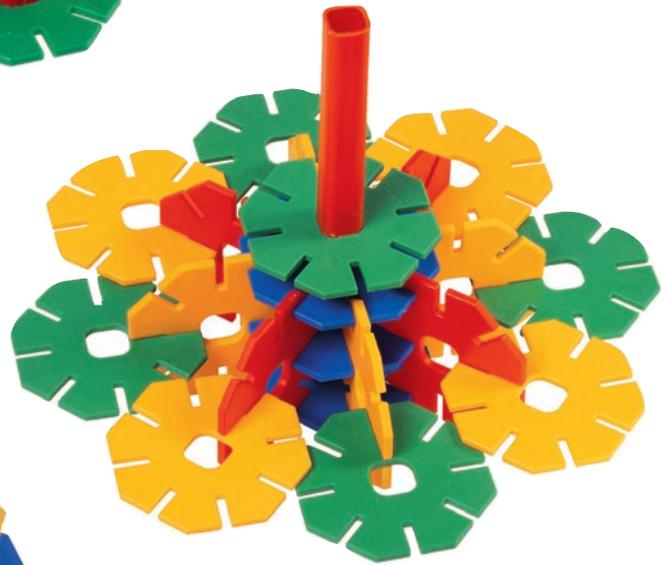
# Information

## How to join the pieces

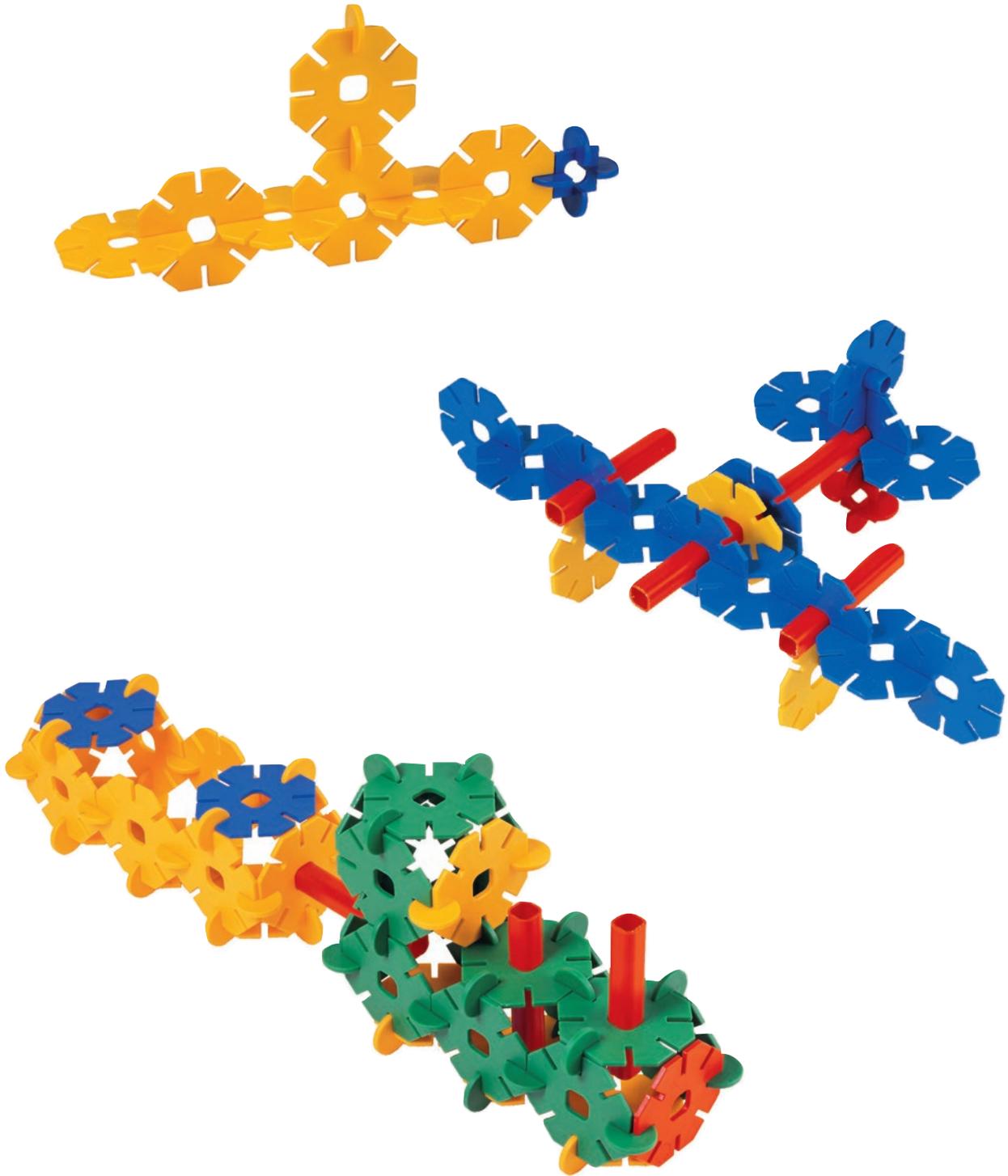




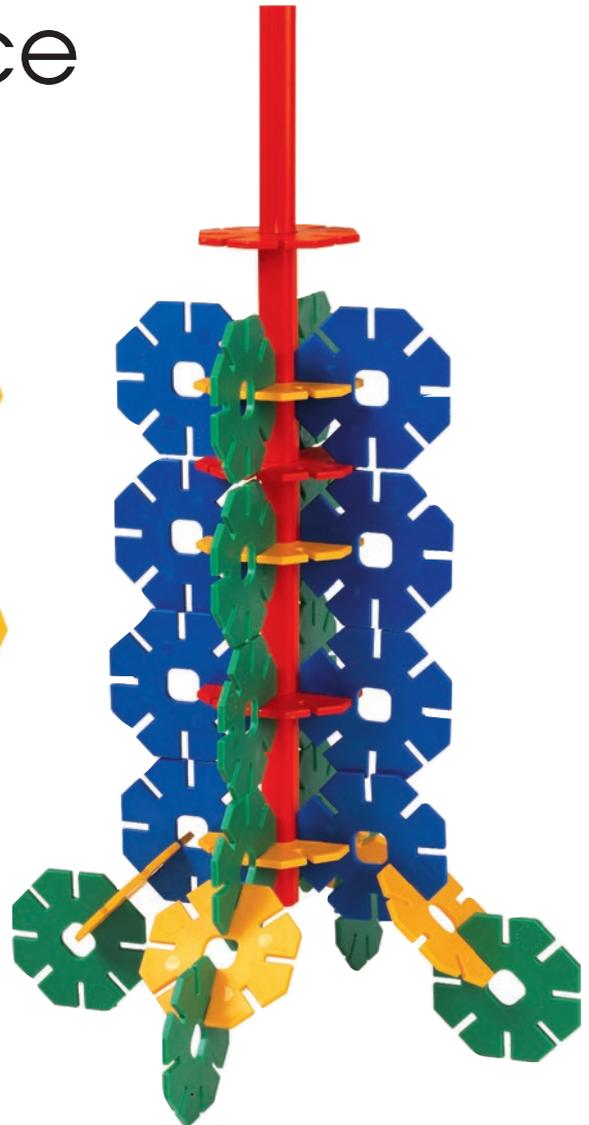
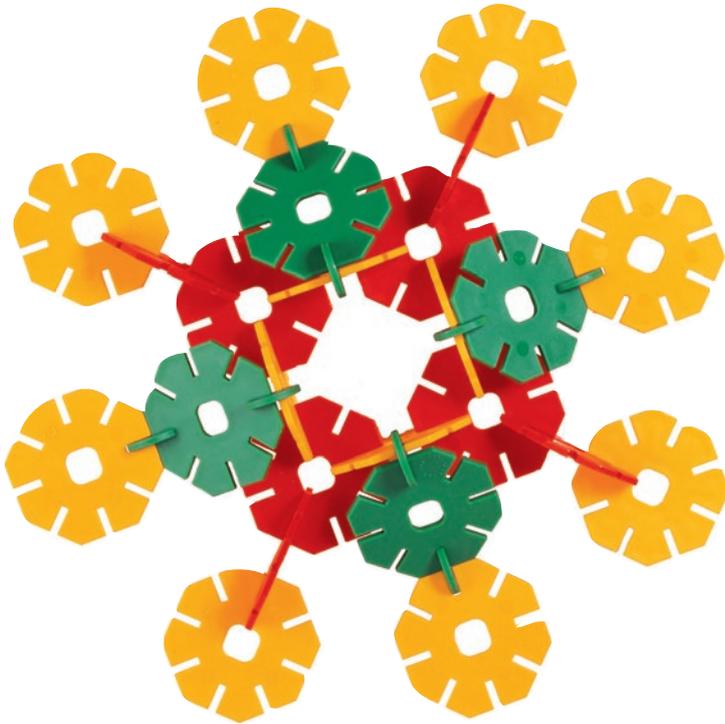
## Toys



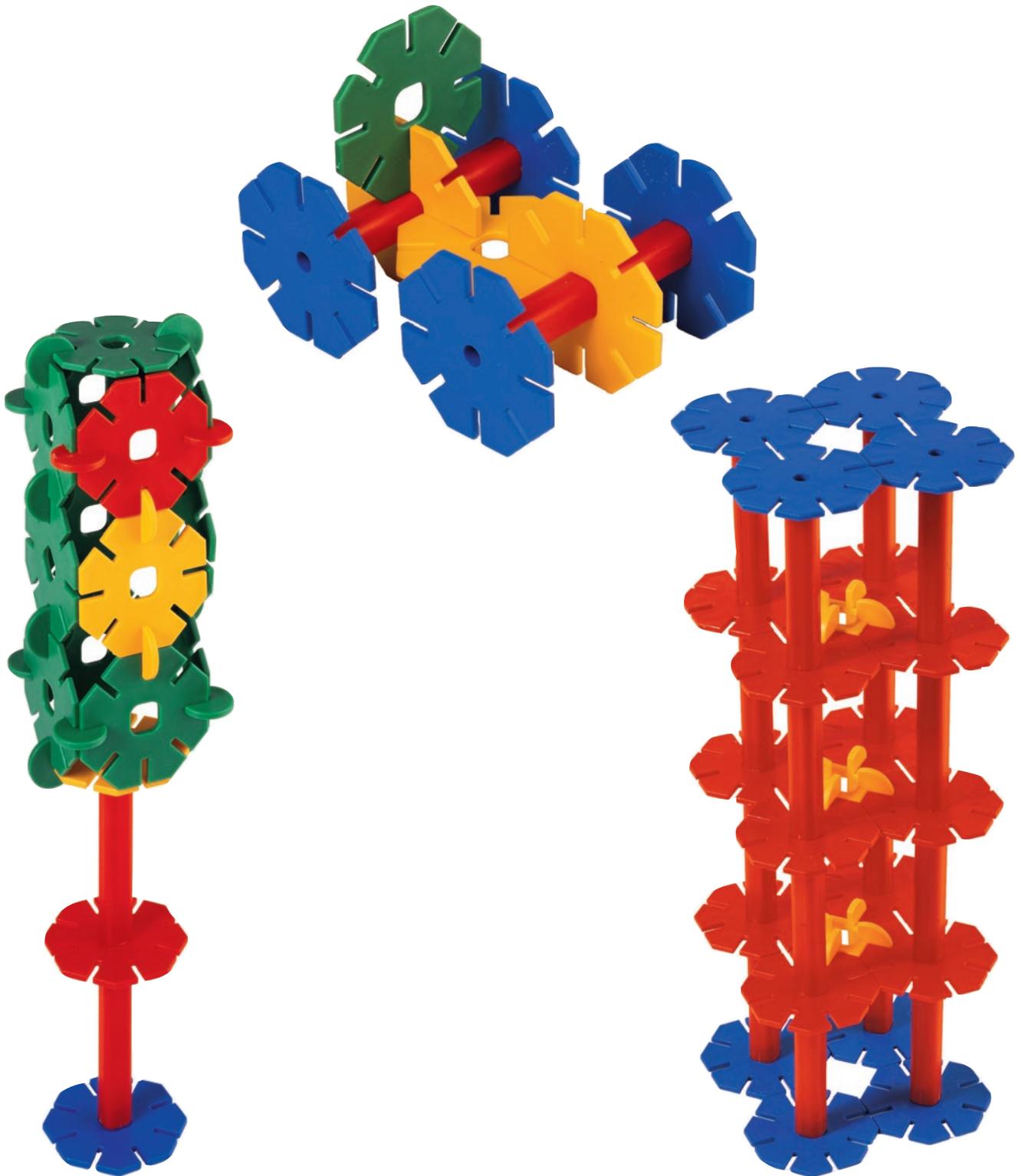
## Transport



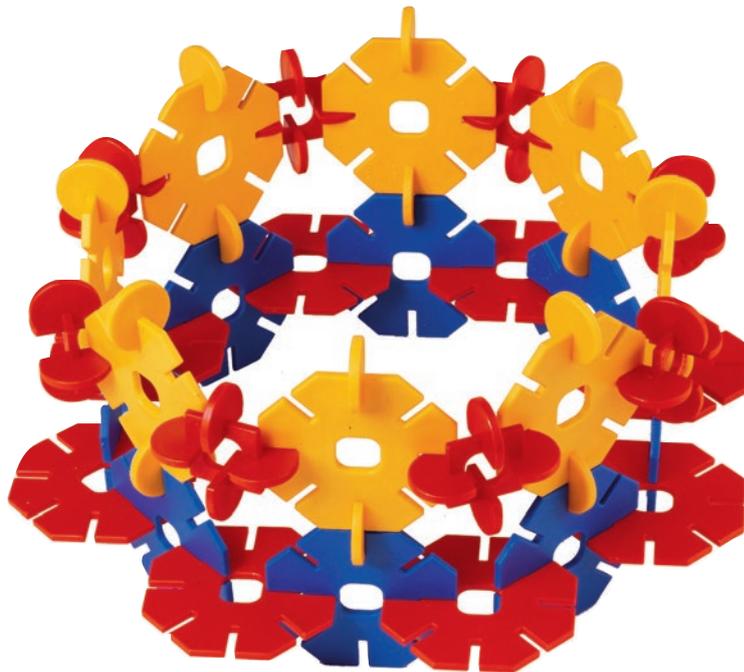
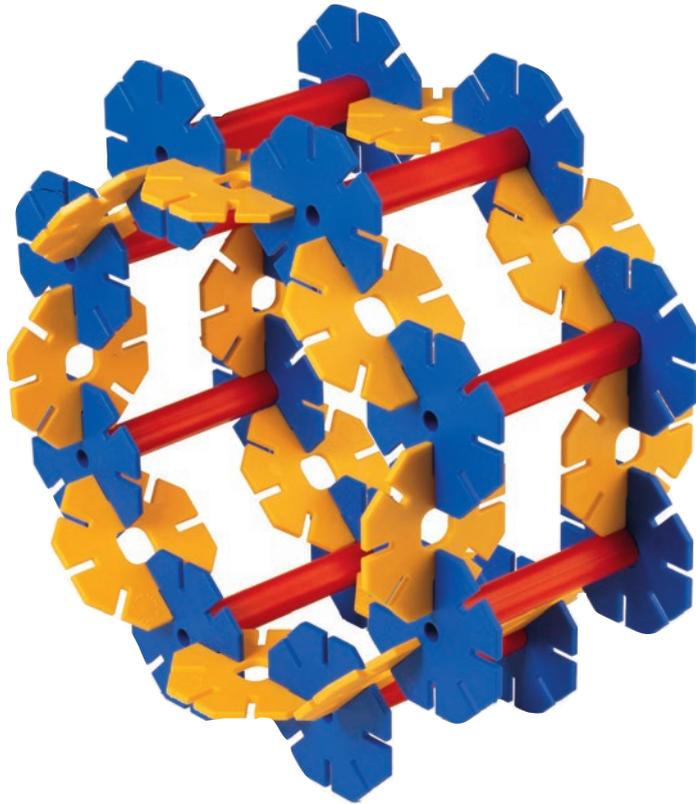
## Space



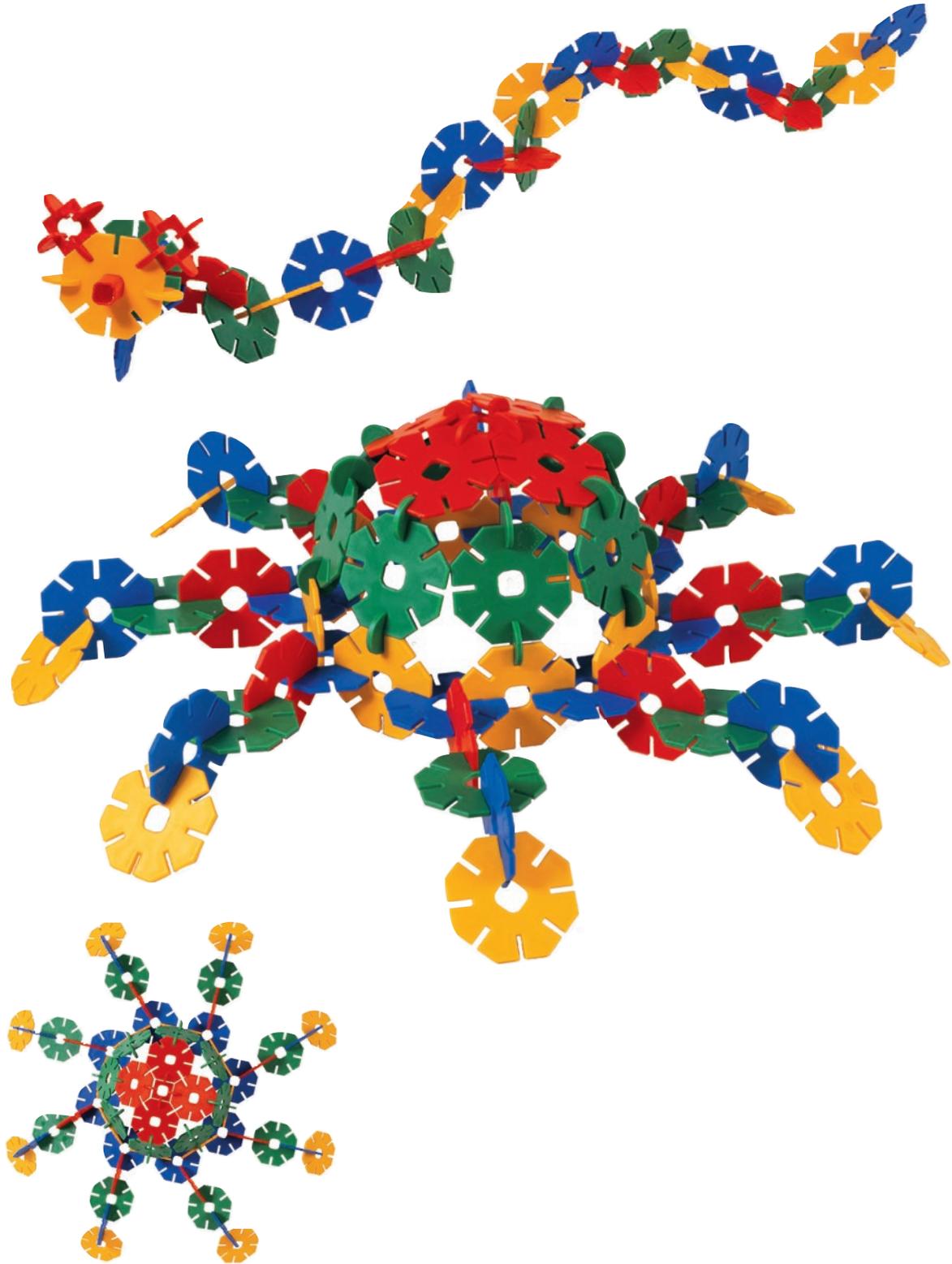
## In Town



## Fairground



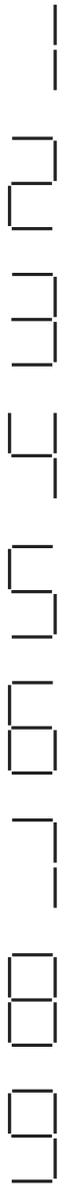
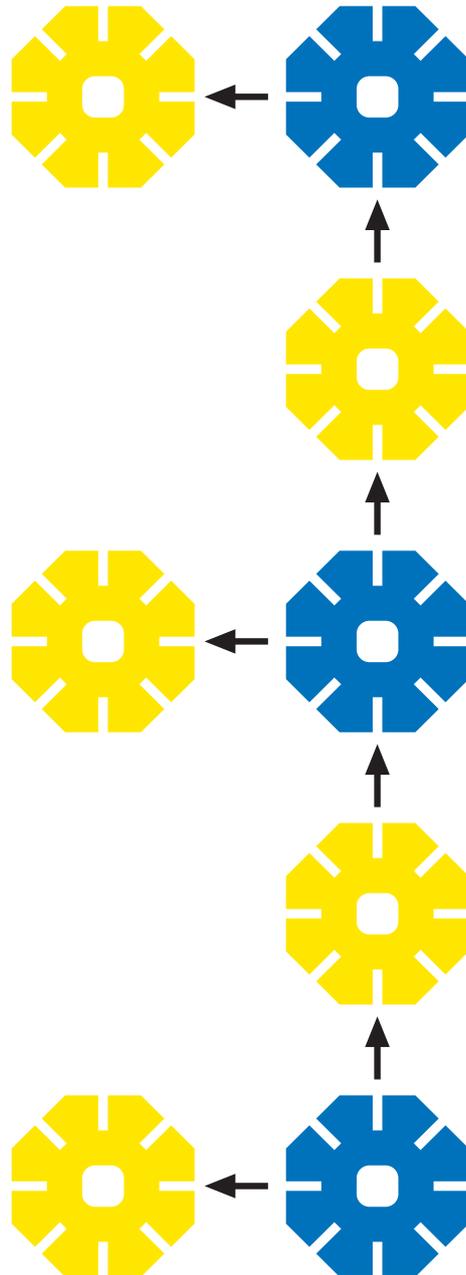
## Animals 1



## Animals 2



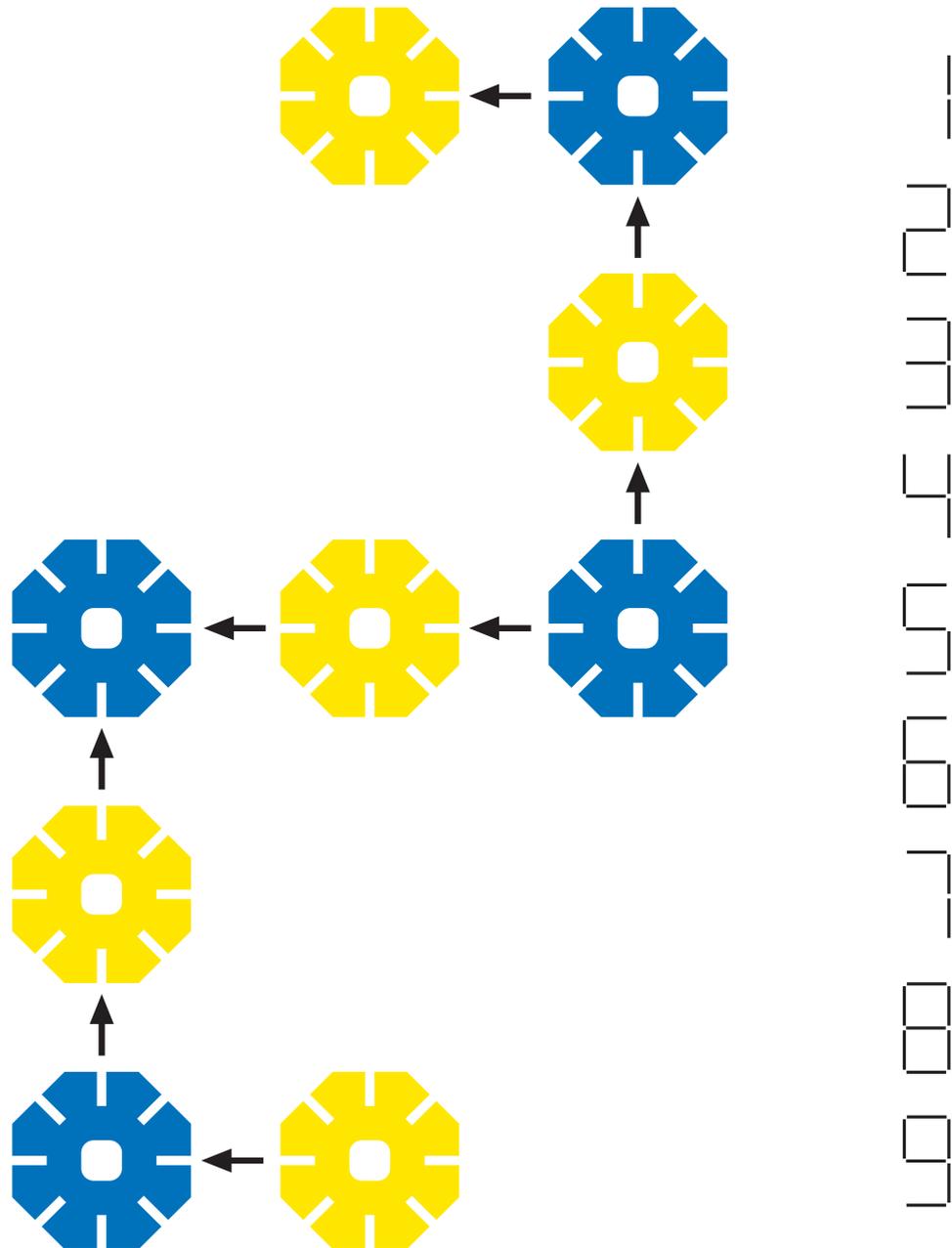
- Join 8 octoplays like this.



You have made a **3**.

- Add 3 octoplays to make a **9**.

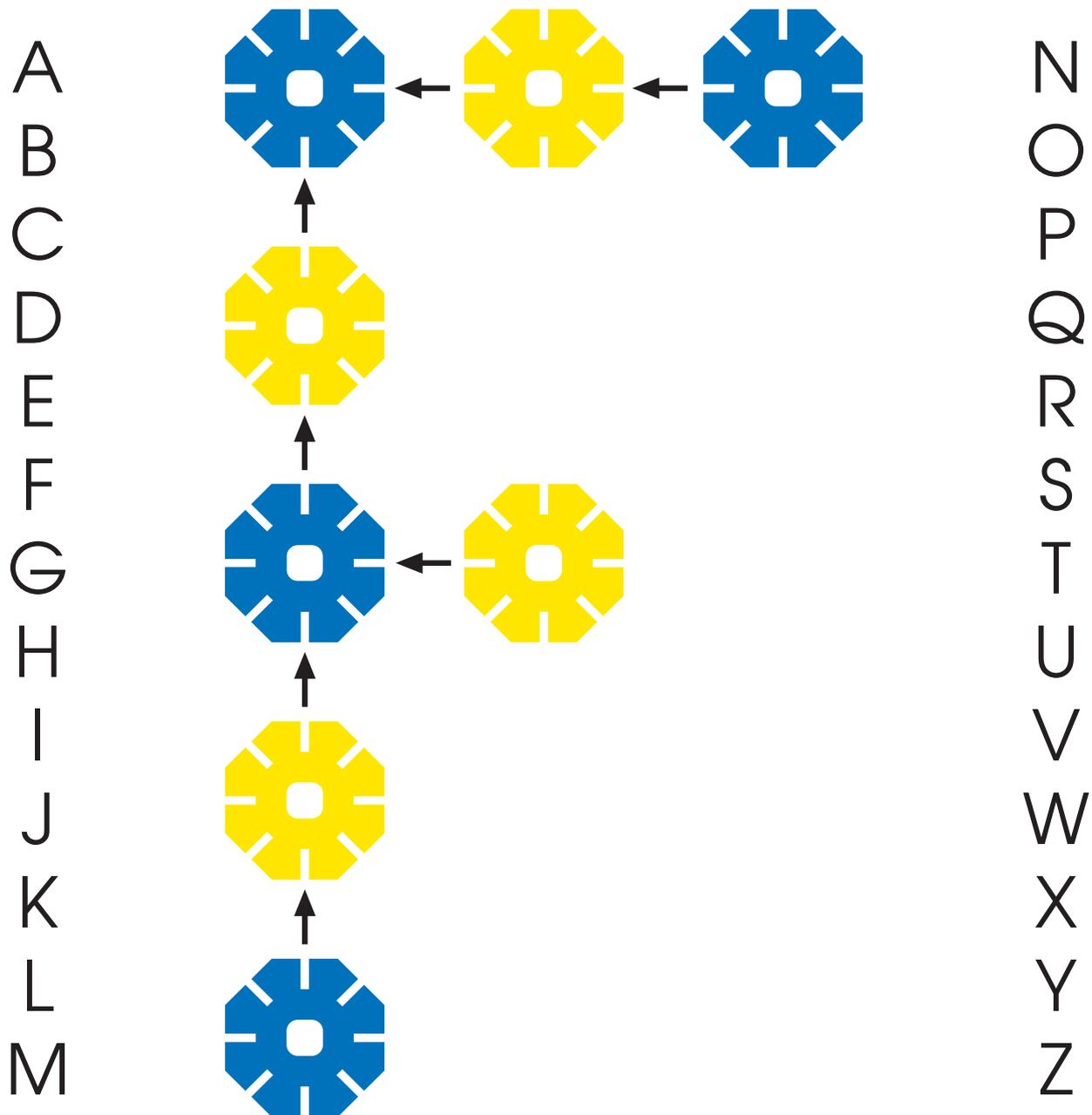
- Join 9 octoplays like this.



You have made a **2**.

- Add 4 octoplays to make an **8**.

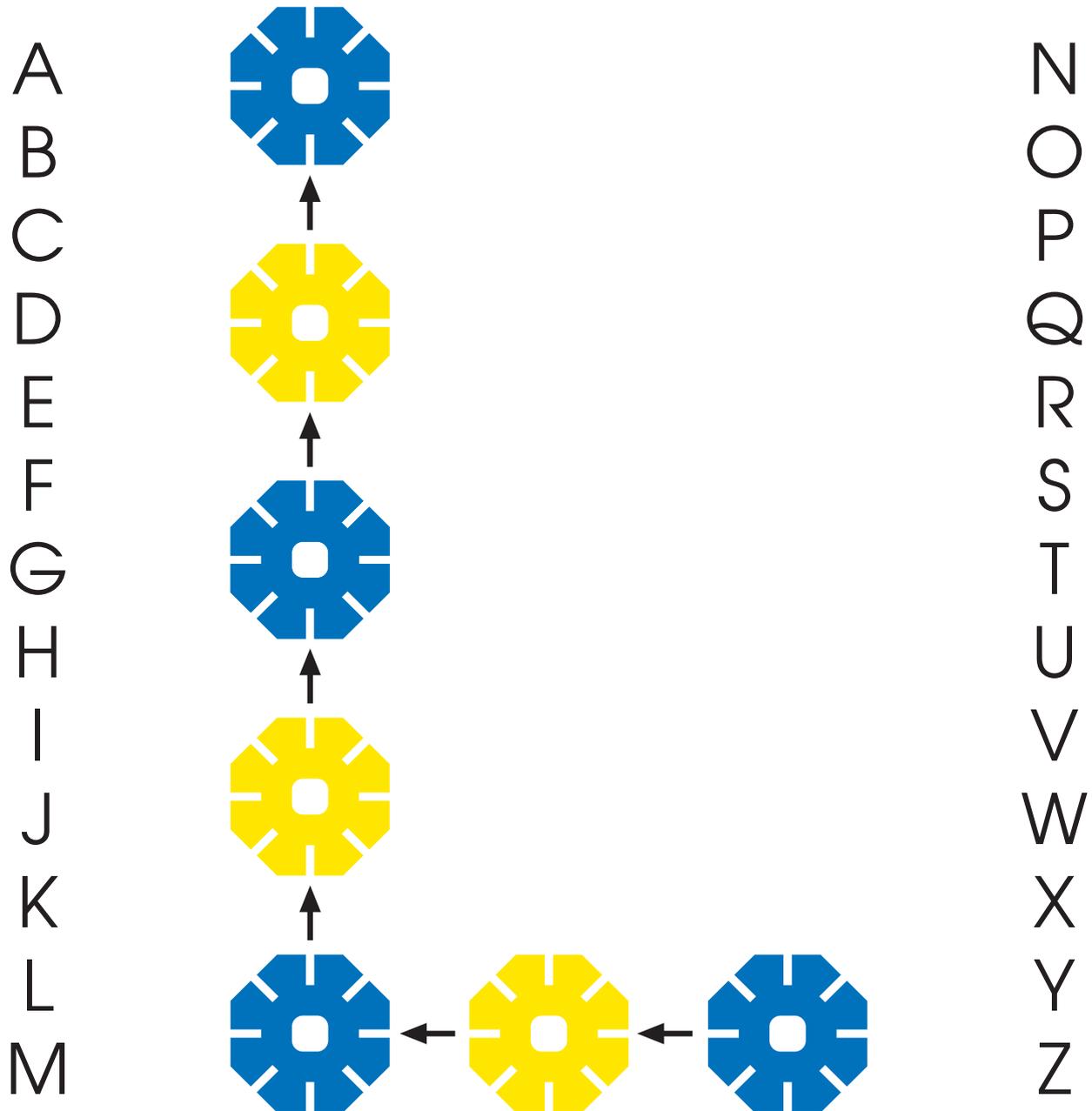
- Join 8 octoplays like this.



You have made a letter **F**.

- Add octoplays to make a letter **E**.

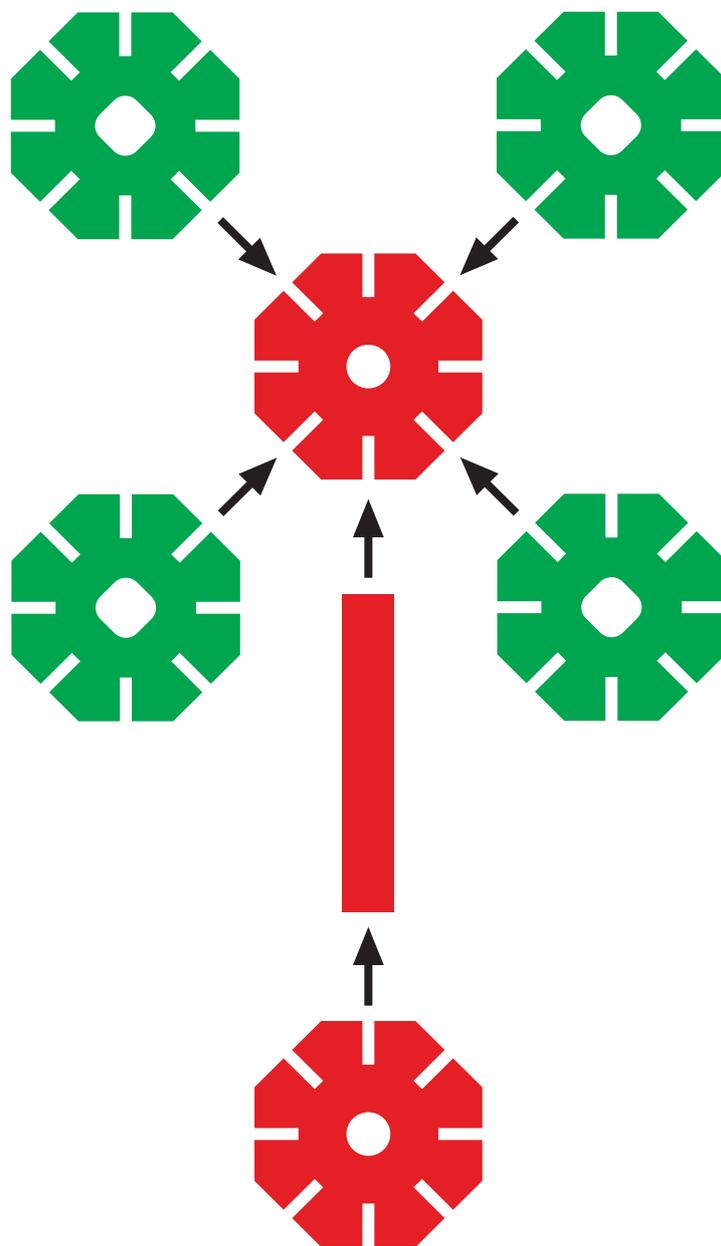
- Join 7 octoplays like this.



You have made a letter **L**.

- Add octoplays to make a letter **T**.

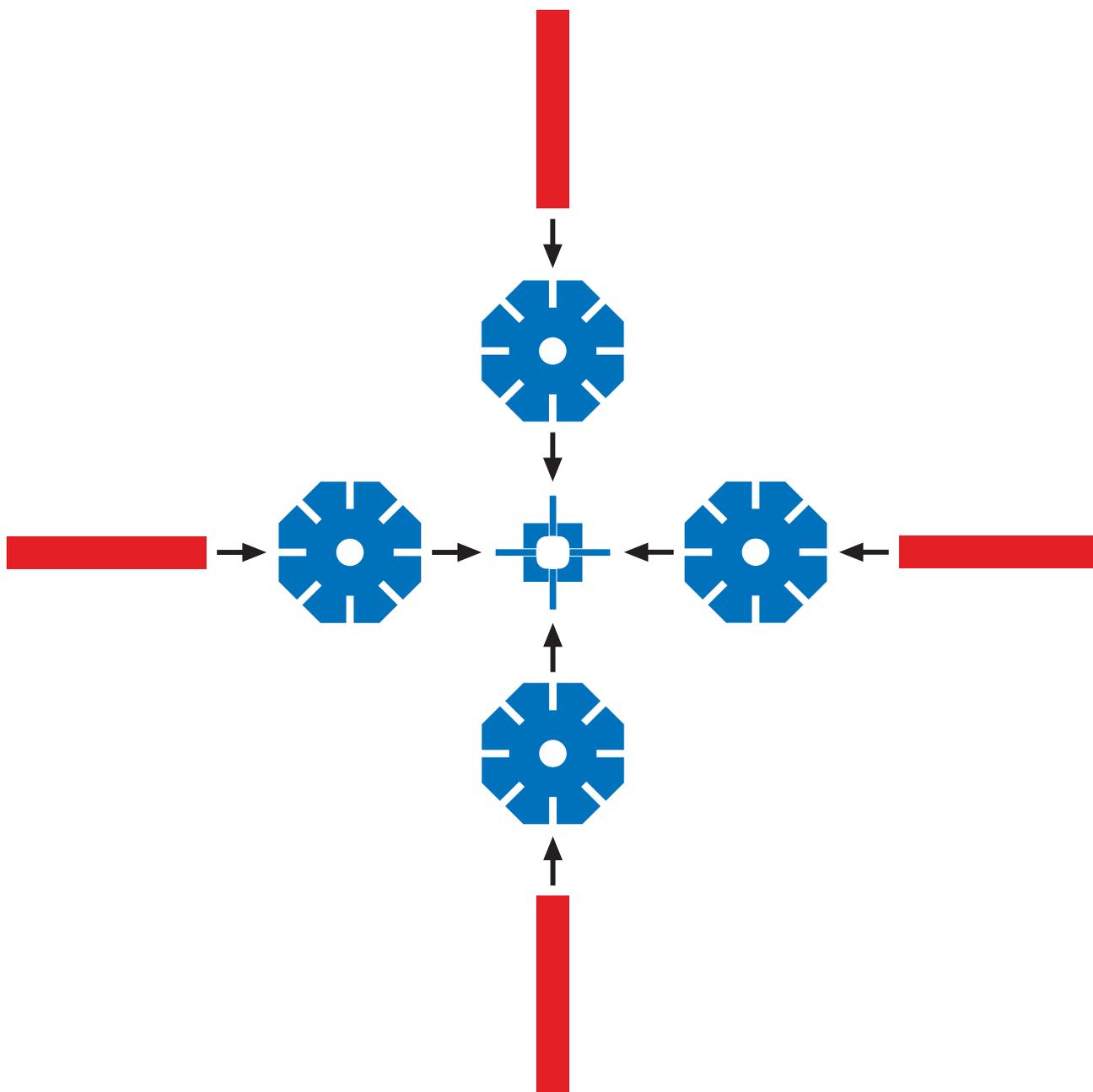
- Join 7 pieces like this.



You have made a tree.

- Make some different trees.

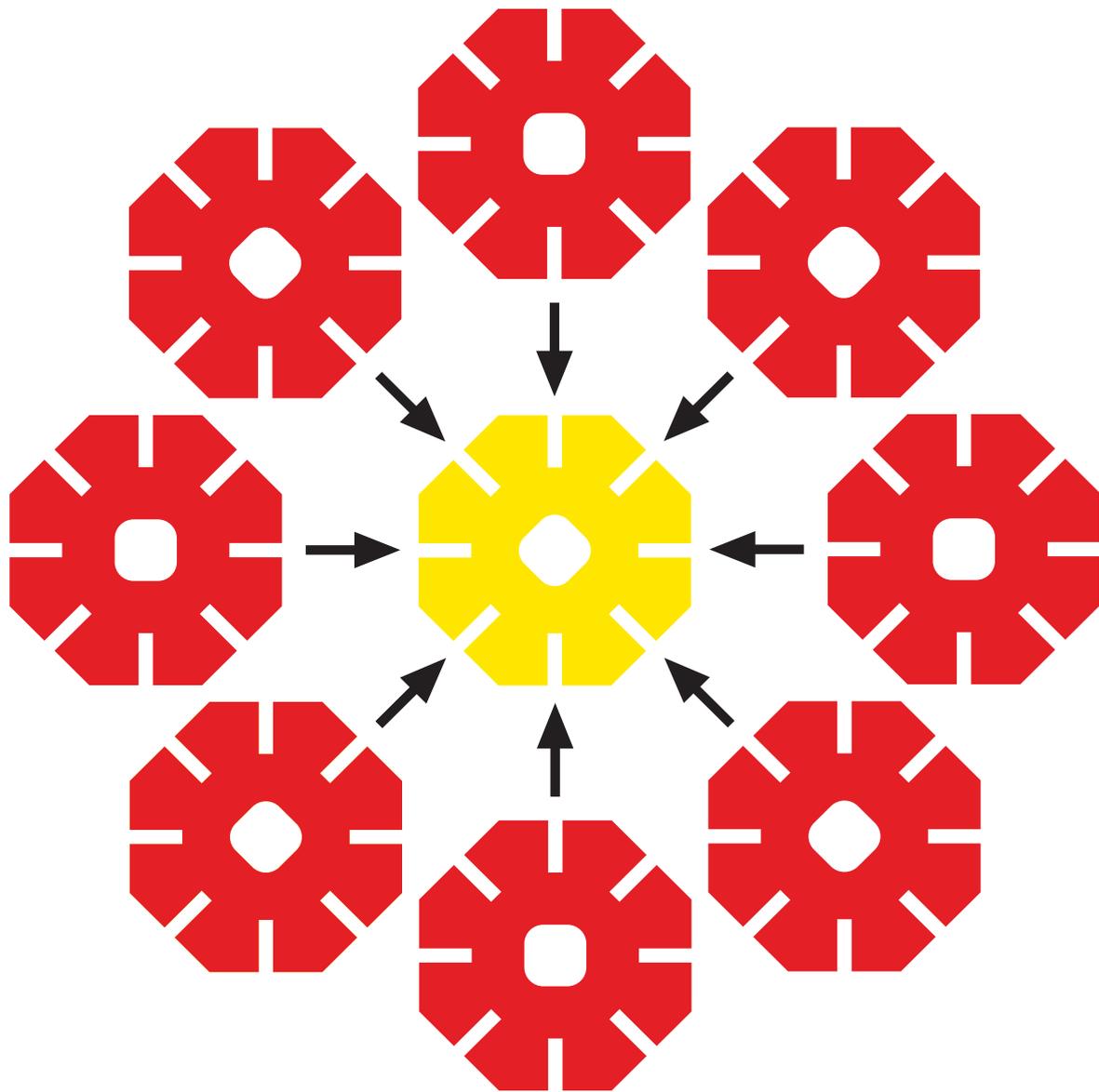
- Join 9 pieces like this.



You have made a table.

- Make a larger table.

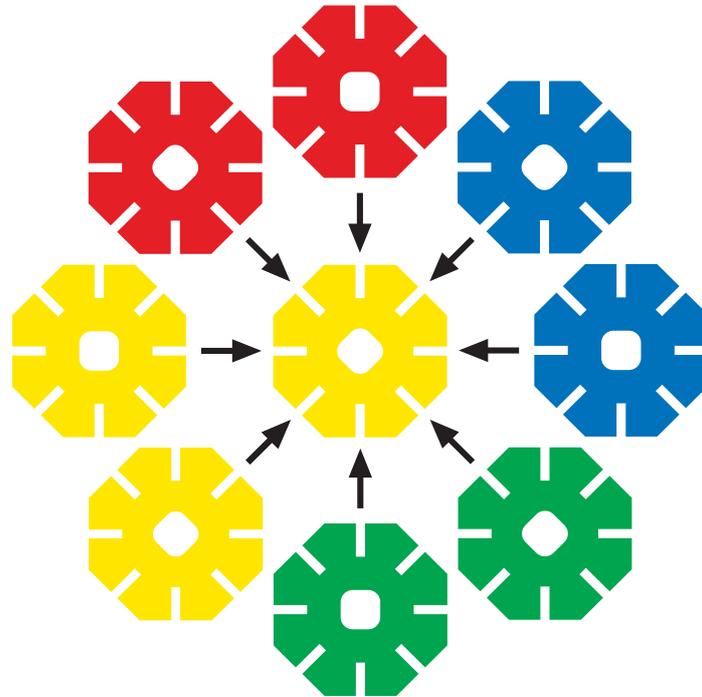
- Join 9 octoplays like this.



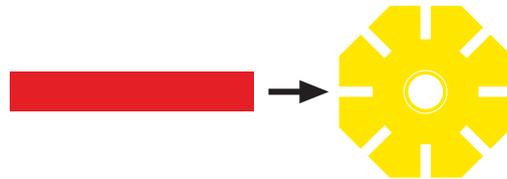
You have made a flower.

- Make more flowers.

- Join octoplays like this.



- Join 2 pieces like this.

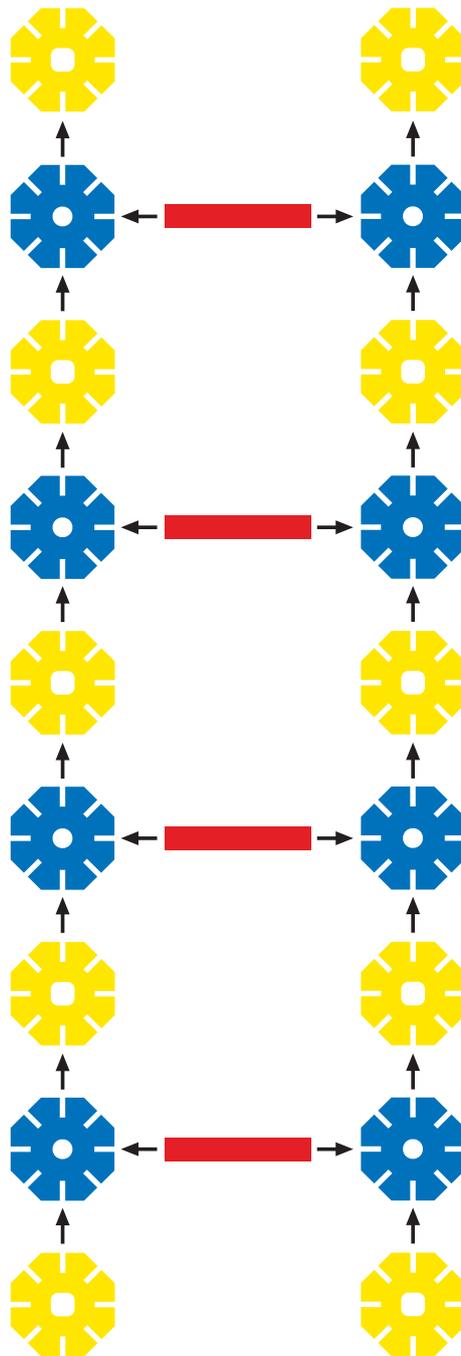


- Push the strut through the hole in the middle of the octoplay until the twin peg touches the others

You have made a top. **Spin it!**  
Why is it special?

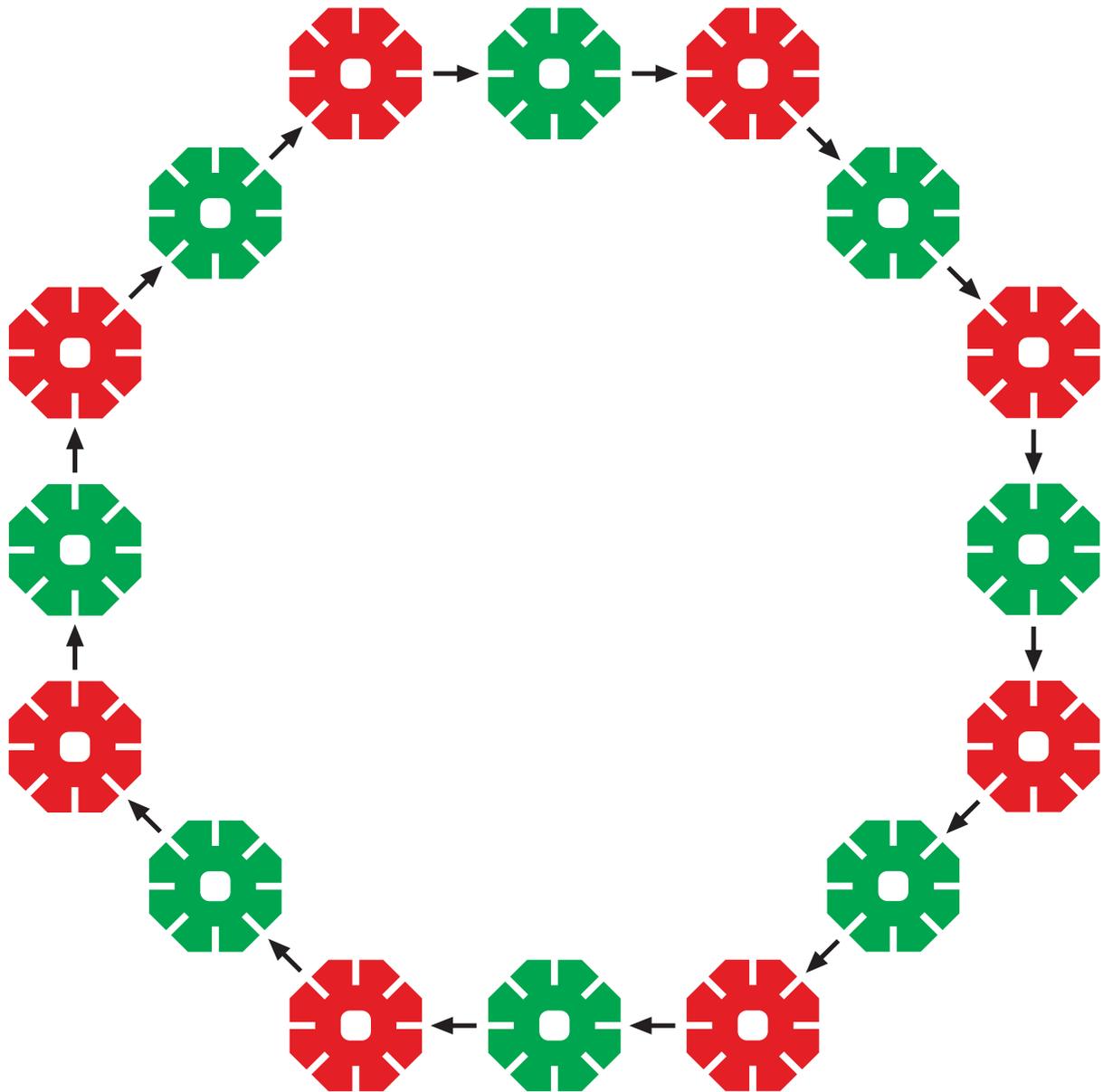
- Make more tops.

- Join pieces like this to make a ladder.



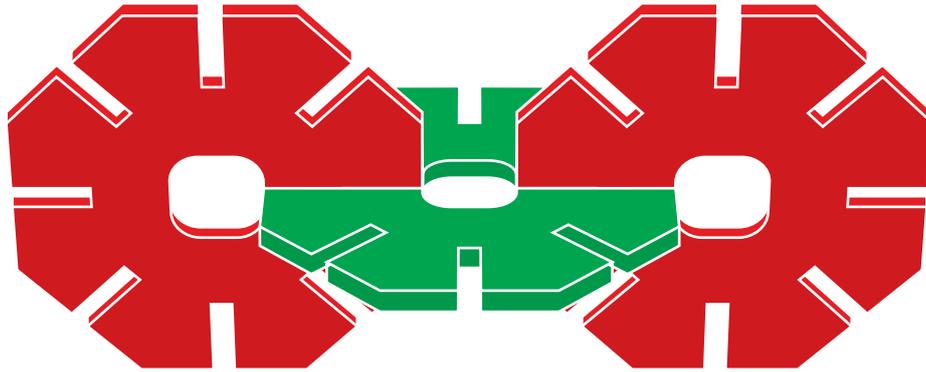
- Make more ladders.

- Join pieces like this to make a crown.



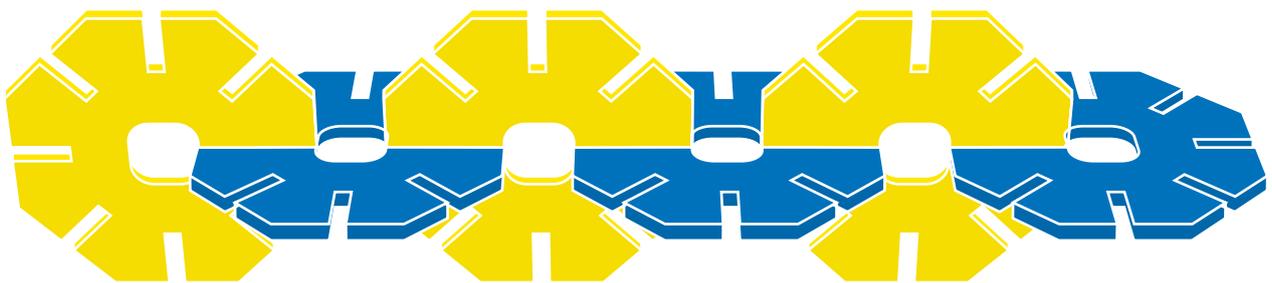
- Make more crowns.

- Join 3 octoplays like this.



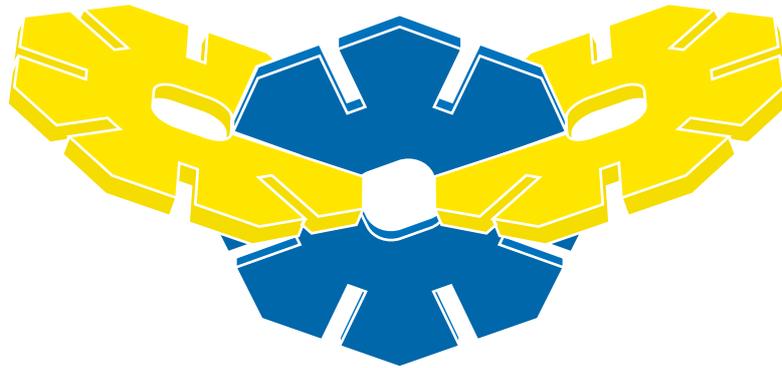
What have you made?

- Make a longer one like this.

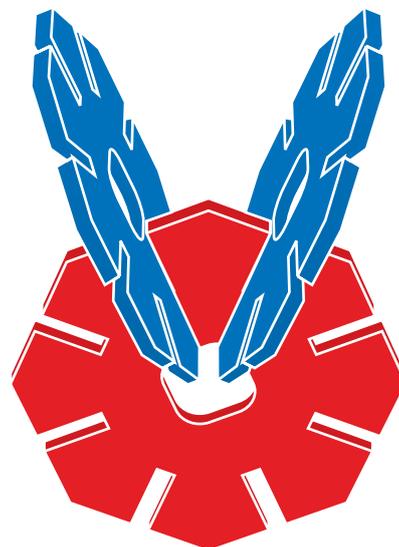
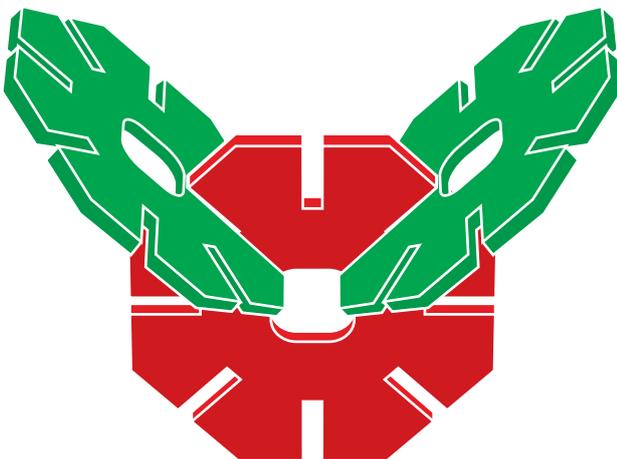


- Use 8 octoplays to make longer ones.

- Join 3 Octoplays like this...



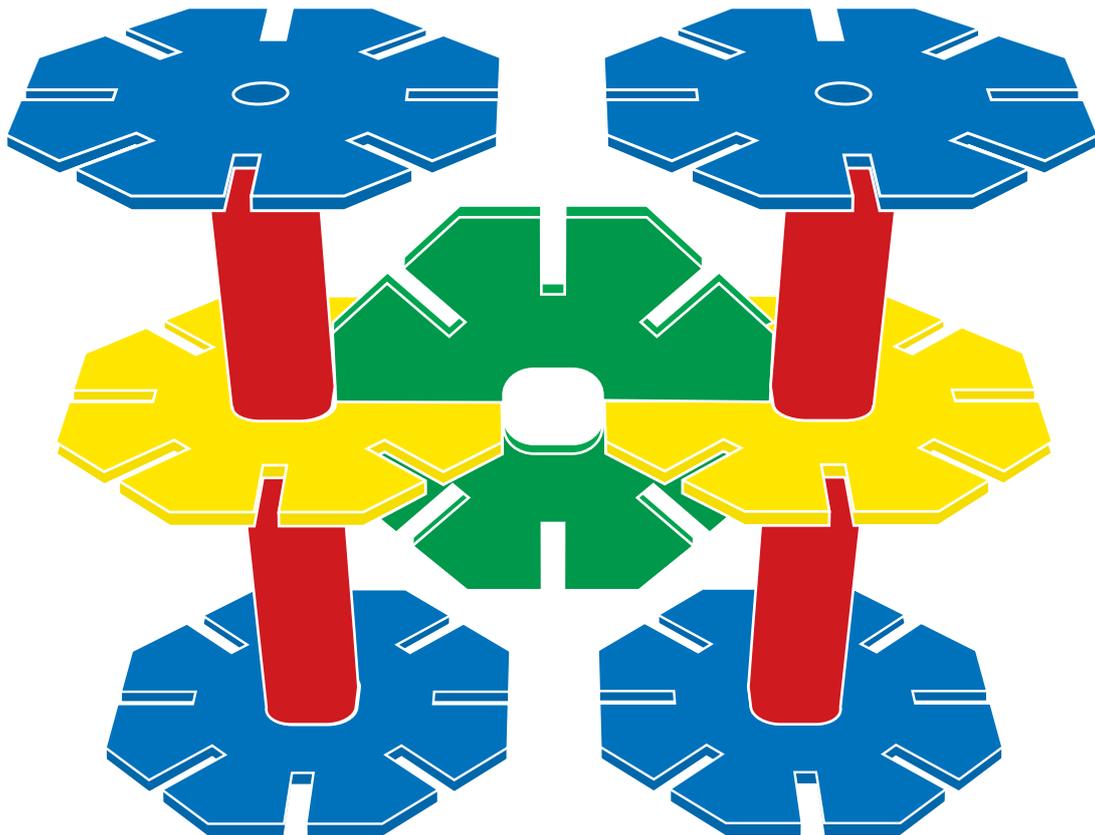
like this      and      like this.



What have you made?

- Make some different ones

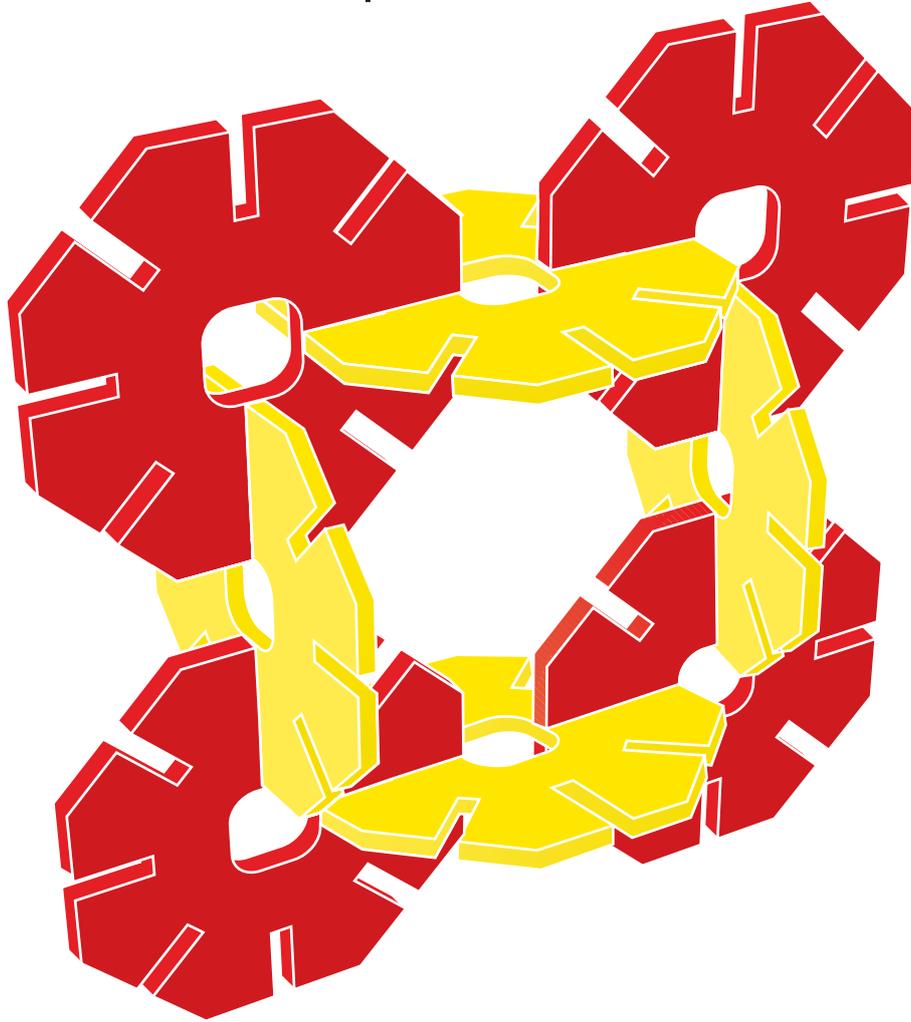
- Make this shape.



What have you made?

- Make a different one.
- Make a larger one.

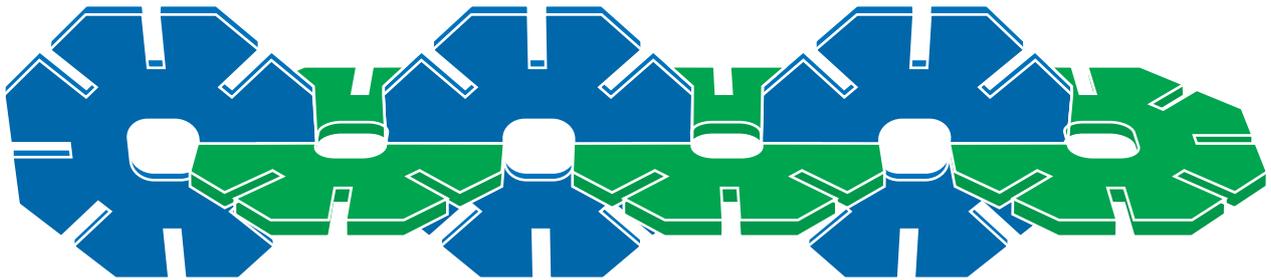
- Make this shape.



What have you made?

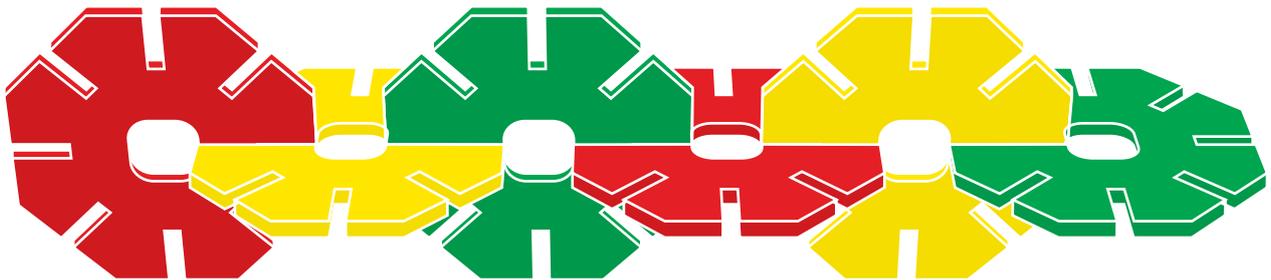
- Make a different one.
- Make a larger one.

- Make a chain with a pattern like this.



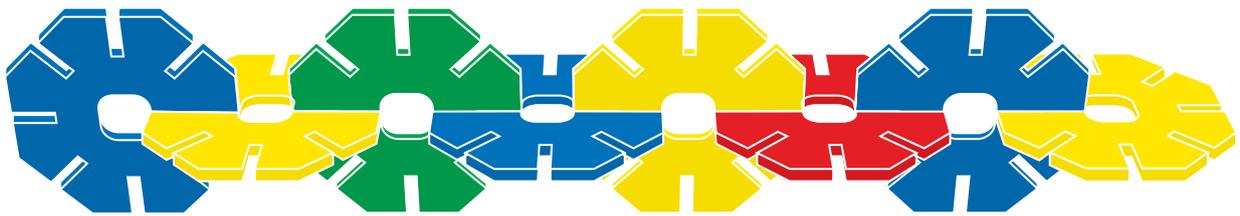
- Join octoplays to this chain to continue the colour pattern.
- Make another chain with a pattern, using only **2 colours**.
- Make chains with different patterns, using only **2 colours**.

- Make a chain with a pattern like this.



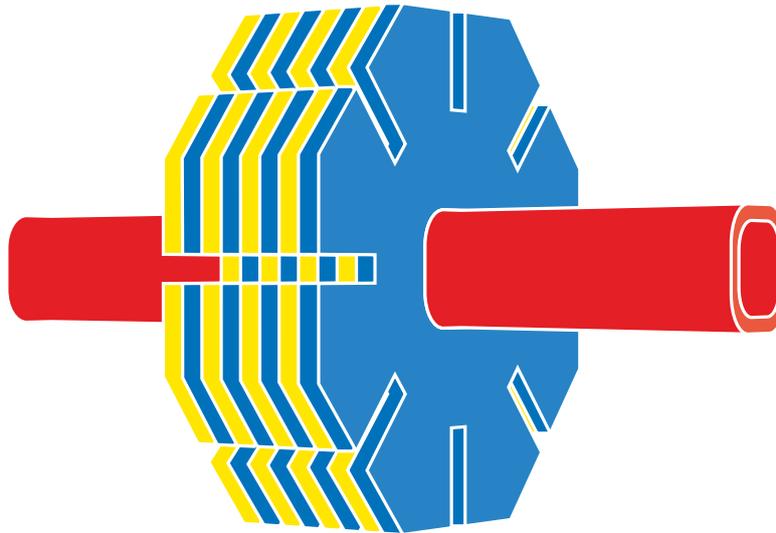
- Join octoplays to this chain to continue the colour pattern.
- Make another chain with a pattern, using only **3 colours**.
- Make chains with different patterns, using only **3 colours**.

- Make a chain with a pattern like this.



- Join octoplays to this chain to continue the colour pattern.
- Make another chain with a pattern, using only **4 colours**.
- Make chains with different patterns, using only **4 colours**.

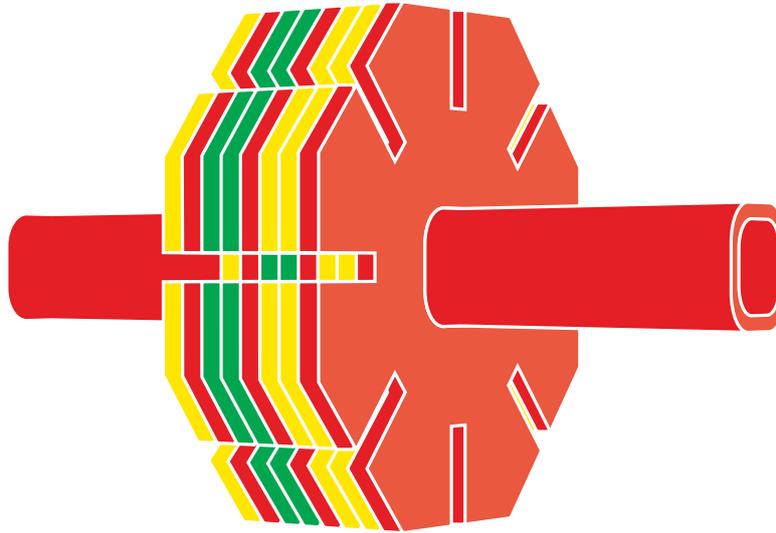
- Make a patterned top like this.



This is a spinning top. **Spin it!**

- Push more octoplays onto the strut to continue this pattern.
- Make another top with a different pattern, using only **2 colours**.
- Make more tops with different patterns, using only **2 colours**.

- Make a patterned top like this.

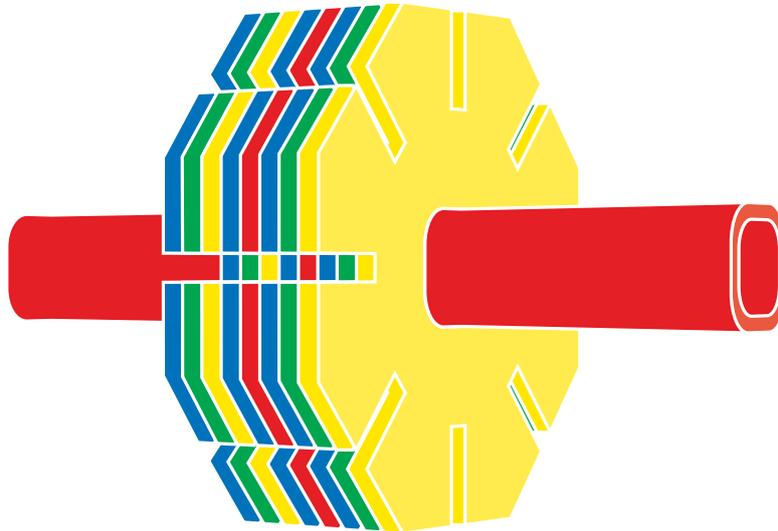


This is a another spinning top.

## Spin it!

- Push more octoplayers onto the strut to continue this pattern.
- Make another top with a different pattern, using only **3 colours**.
- Make more tops with different patterns, using only **3 colours**.

- Make a patterned top like this.

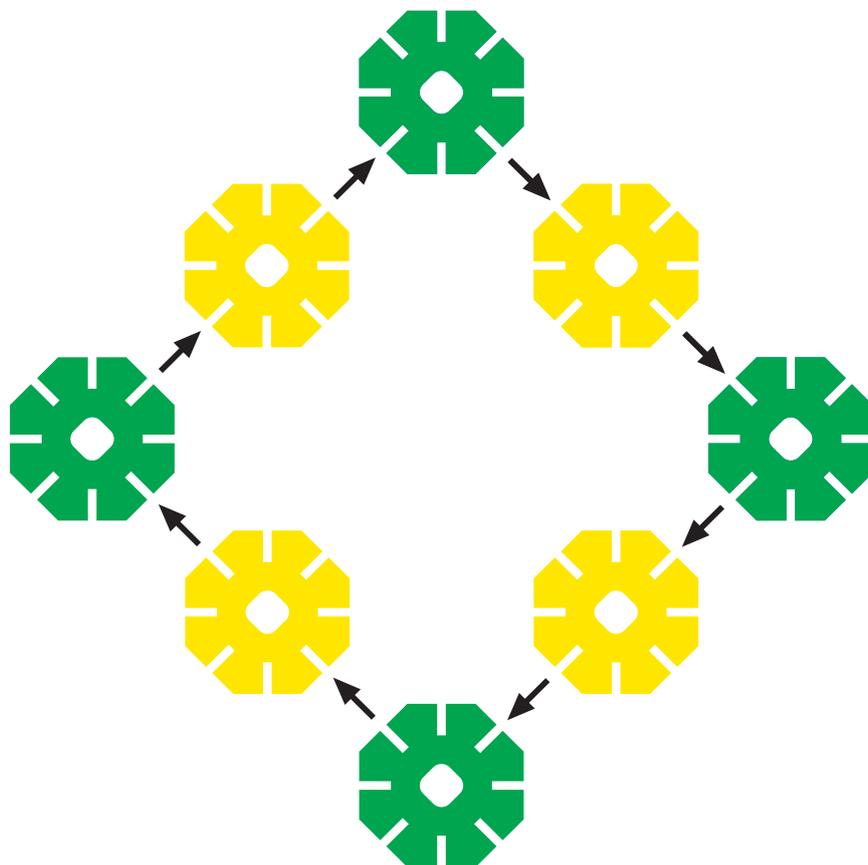


- Push more octoplays onto the strut to continue this pattern.

**Does the top spin better with more or less octoplays on the strut?**

- Join a twin peg to the end of the top. The top will spin better.
- Make more tops with different patterns, using all **4 colours**.

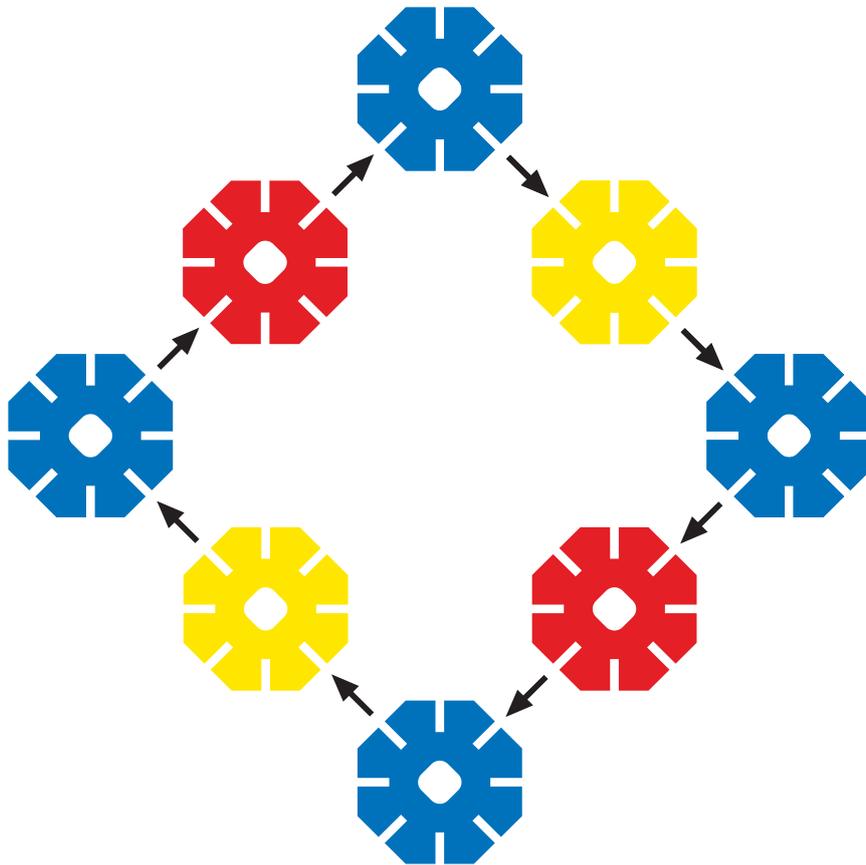
- Join 8 octoplays like this.



You have made a green and yellow diamond.

- Make a red and yellow diamond with a similar pattern.
- Use any **2 colours** to make other diamonds with a similar pattern.

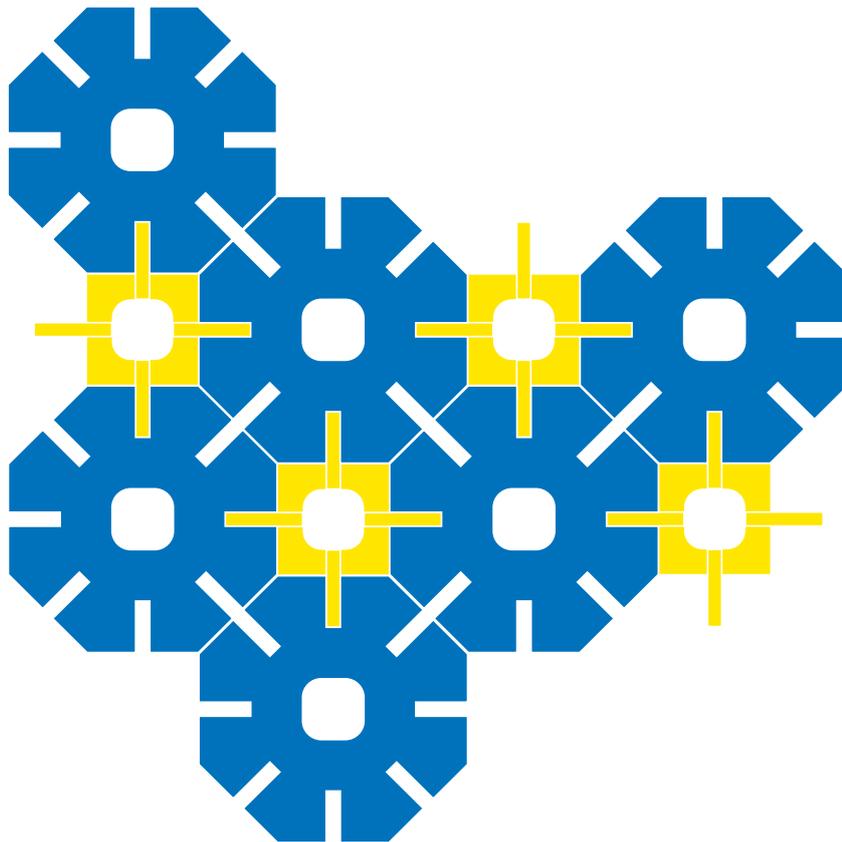
- Join 8 octoplays like this.



You have made a red, blue and yellow diamond.

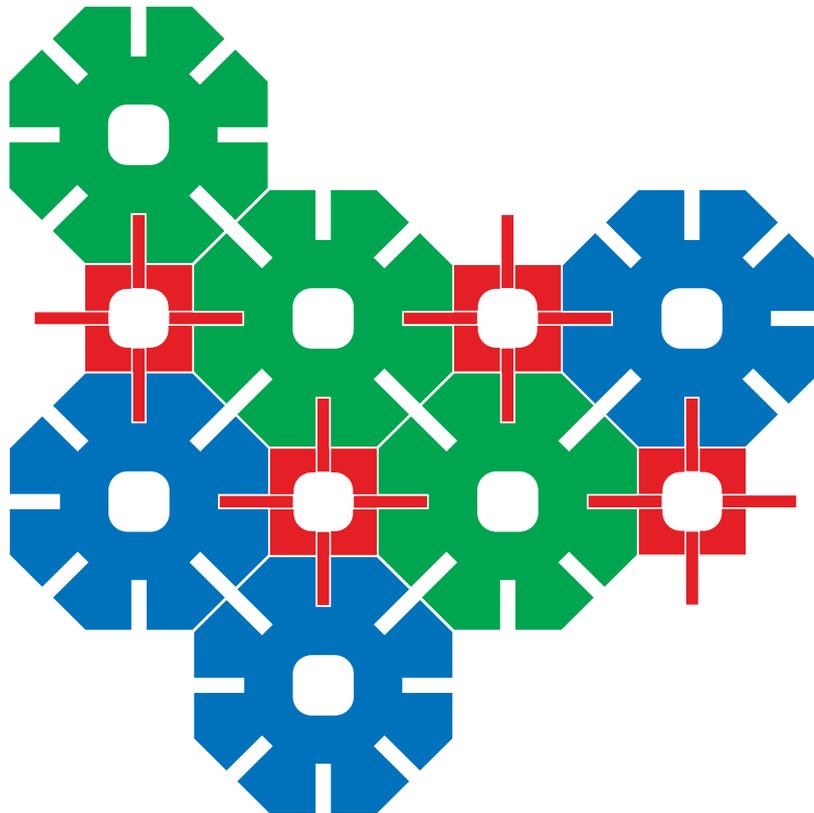
- Make a green, blue and red diamond with a similar pattern.
- Use any **3 colours** to make other diamonds with a similar pattern.

- Join pieces to make this pattern.



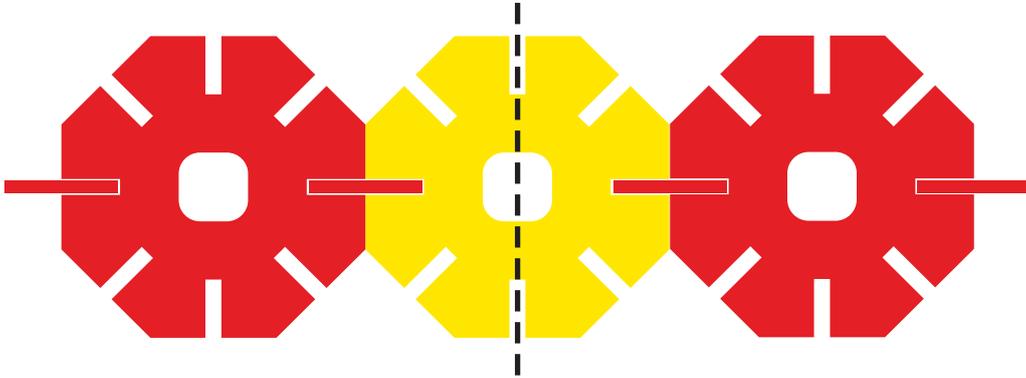
- Continue this pattern by joining more pieces to the top.
- Continue this pattern by joining more pieces to the bottom.
- Continue this pattern by joining more pieces to both sides.

- Join pieces to make this pattern.



- Continue this pattern joining more pieces on all sides.
- Make another similar pattern using only **3 colours**.
- Make another similar pattern using all **4 colours**.

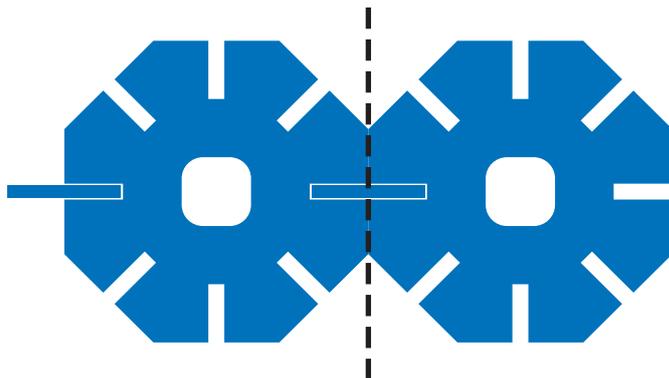
- Join 2 twin discs and 1 octoplay like this.



- Put a mirror along the broken line. Look in the mirror and see the same shape.

This means the shape is **symmetrical** and the broken line is a **line of symmetry**.

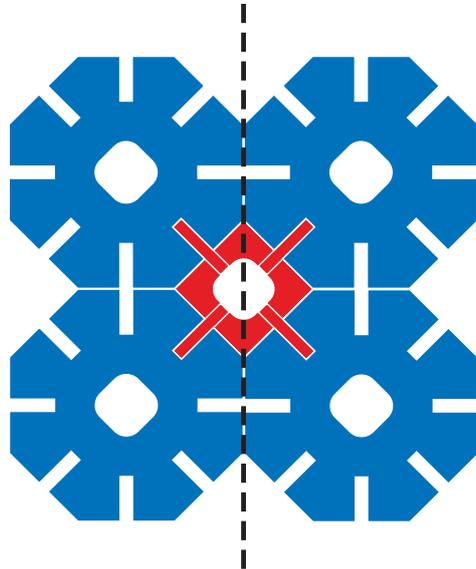
- Join 1 disc and 1 octoplay like this.



- Put a mirror along the broken line. Look in the mirror and see that the reflection has an extra twin disc.

This means the shape is **not** symmetrical.

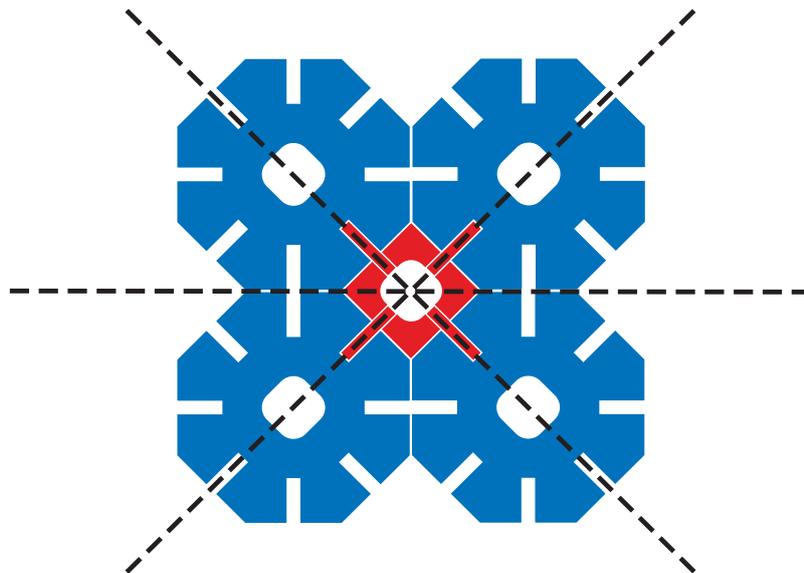
- Join 5 pieces to make this shape.



- Put a mirror on the broken line.

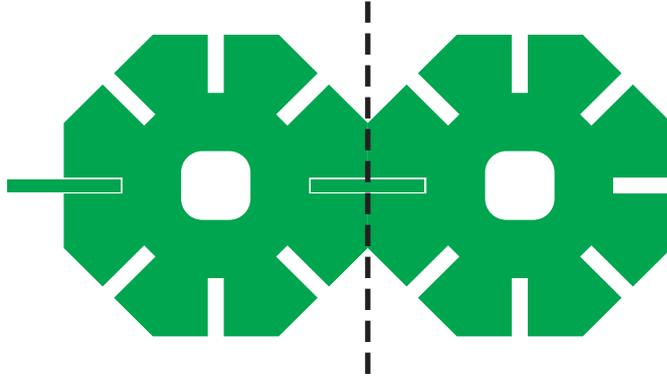
The shape is **symmetrical** about the line.

- Put the mirror on each of the lines.



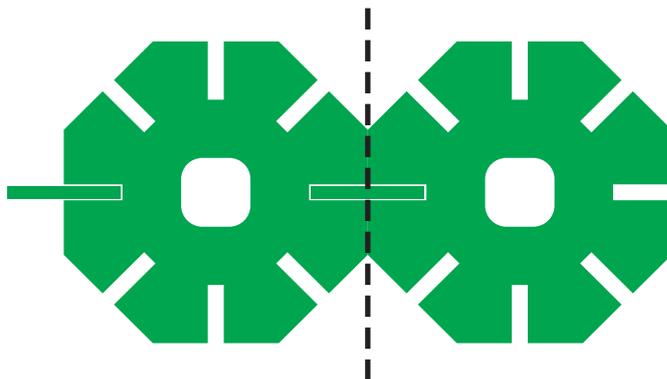
The shape is **symmetrical** about each line.

- Join 1 twin disc and 1 octoplay like this.



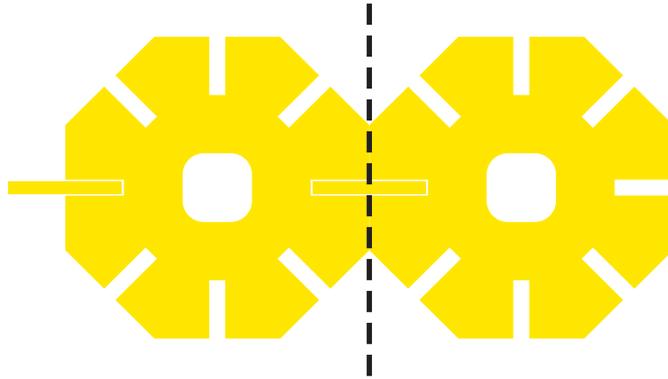
This shape is not **symmetrical** about the line.

- Join 1 octoplay to the shape to make a new shape which is symmetrical.
- Join another twin disc and octoplay like this.



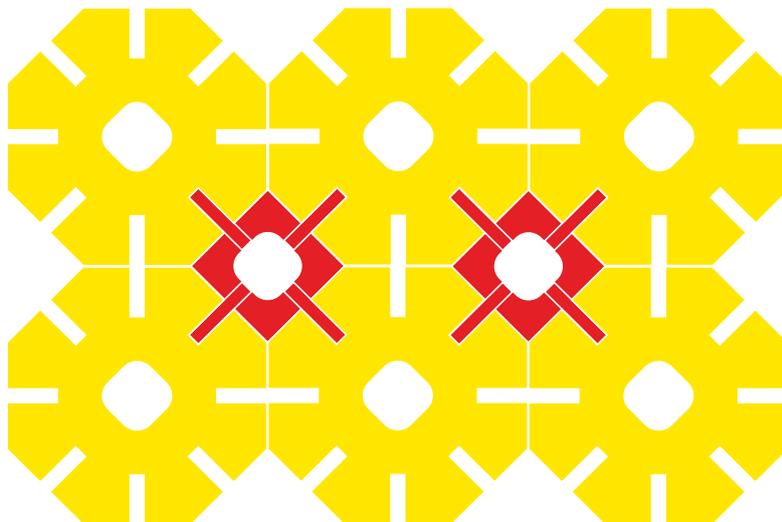
- Join 1 twin disc to this shape to make a new shape which is symmetrical.
- Join another twin disc to this shape to make another shape which is symmetrical.

- Join 1 twin discs and 1 octoplay like this.



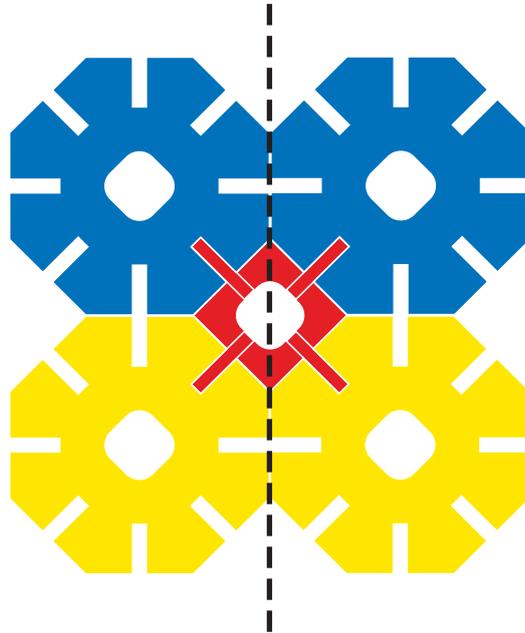
This broken line is **not** a **line of symmetry**.

- Use a mirror to find a **line of symmetry**.
- Join 8 pieces like this.



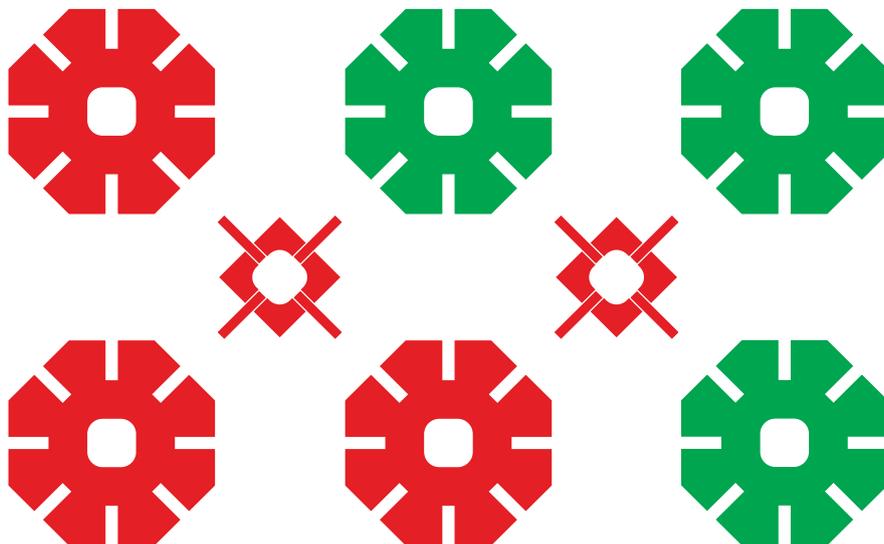
- Use a mirror to find a line of symmetry.
- Use a mirror to find another line of symmetry.

- Join 5 pieces like this.

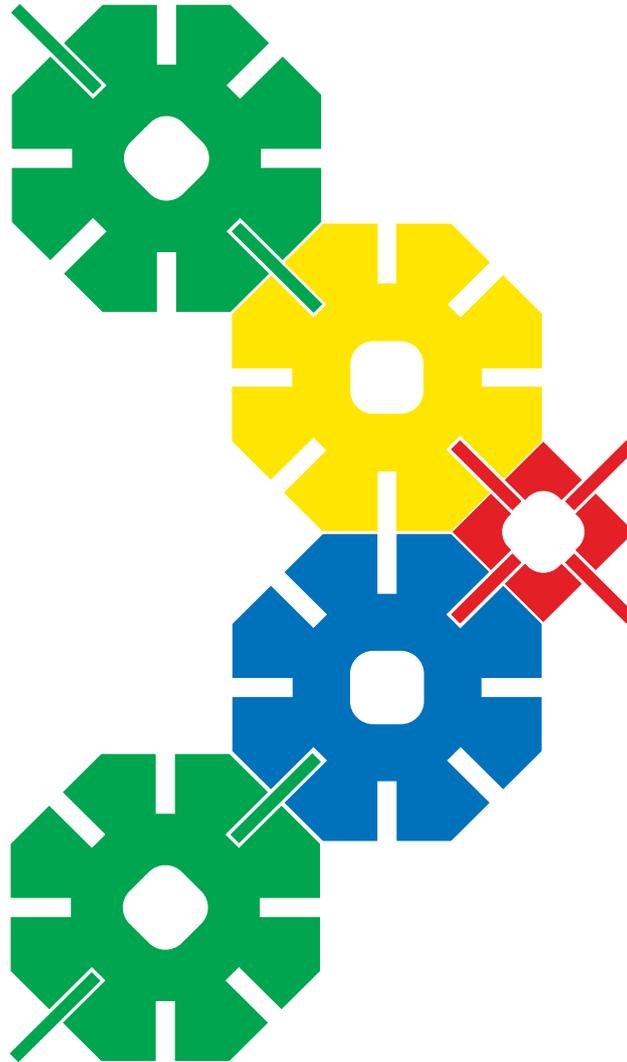


This shape is **symmetrical** about the line.  
**The colours are also symmetrical.**

- Join these 8 pieces to make a shape so that **the shape and the colours are symmetrical.**

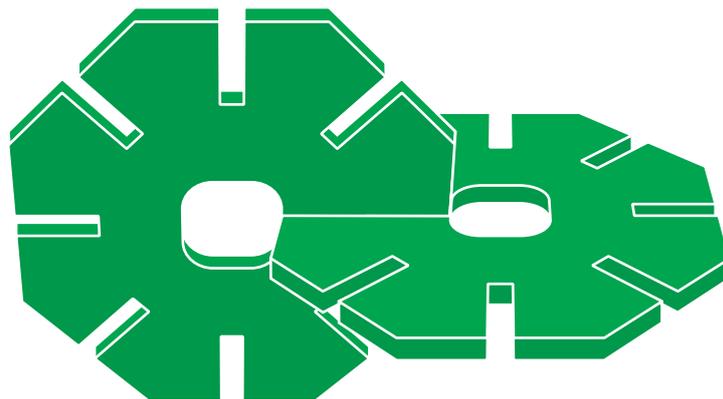
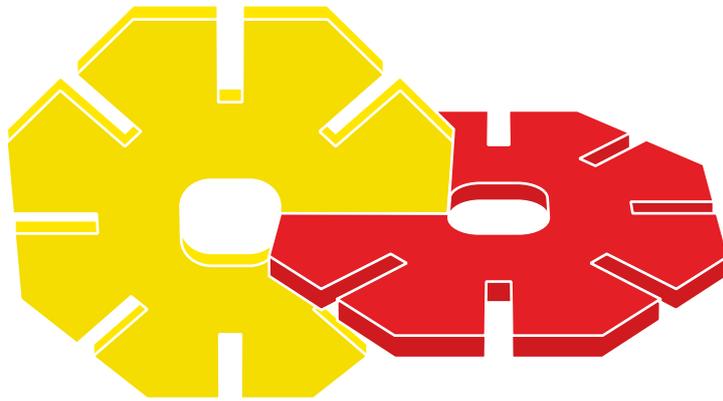


- Join 5 pieces like this.



- Join pieces to this shape to make a shape which is **symmetrical in shape and colour**.
- Starting with the same 5 pieces, join other pieces to make different shapes which are **symmetrical in shape and colour**.

Here are 2 pairs of octoplays.

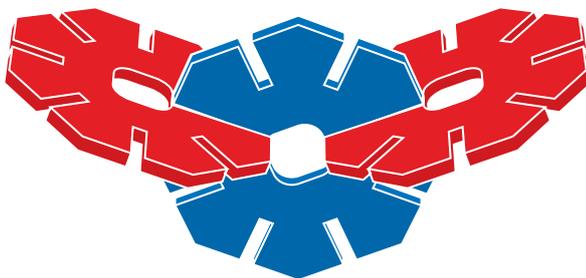
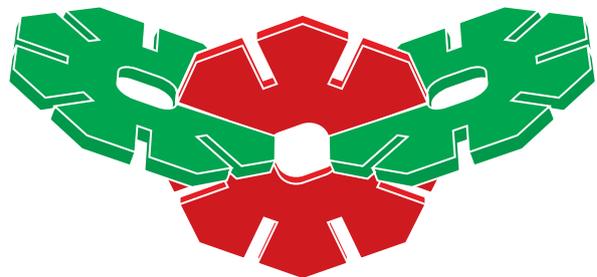
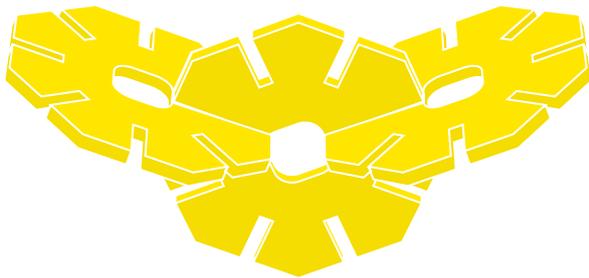


- Make these 2 pairs.
- Make a different pair.
- Make another different pair.

**How many different pairs  
can you make?**

Here are 3 butterflies

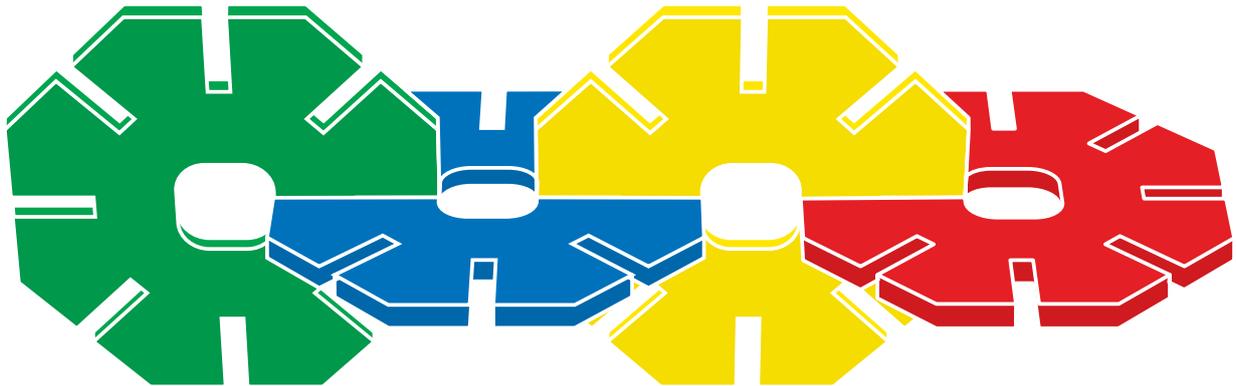
**Butterflies wings are always  
the same colour.**



- Make these 3 butterflies.
- Make a different butterfly.
- Make another butterfly.

**How many different butterflies  
can you make?**

- Make this row of 4 octoplays.



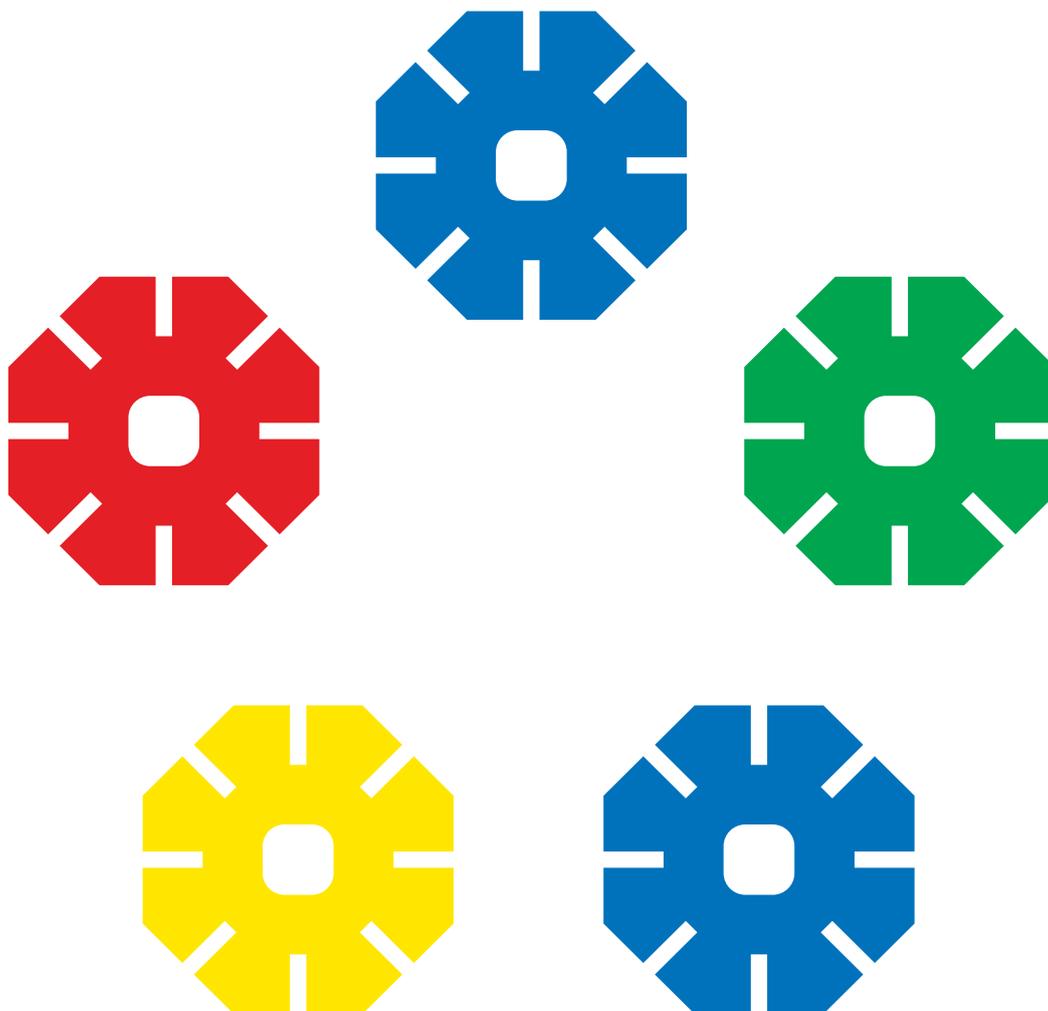
- Make different rows of 4 using the same 4 pieces.

**How many different rows can you make?**

- Make different rows of 4 using any number of red or yellow octoplays, but no blue or green.

**How many different rows can you make?**

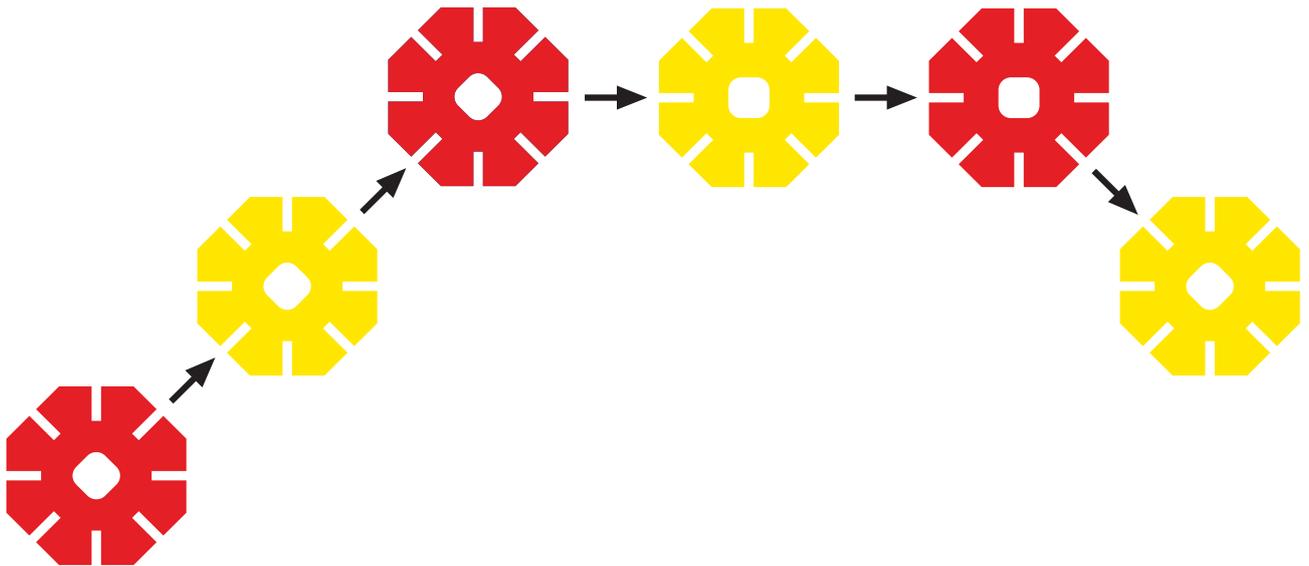
- Join 5 octoplays



- Join 5 octoplays and make a different shape.

**How many different shapes  
can you make?**

- Join octoplays like this.

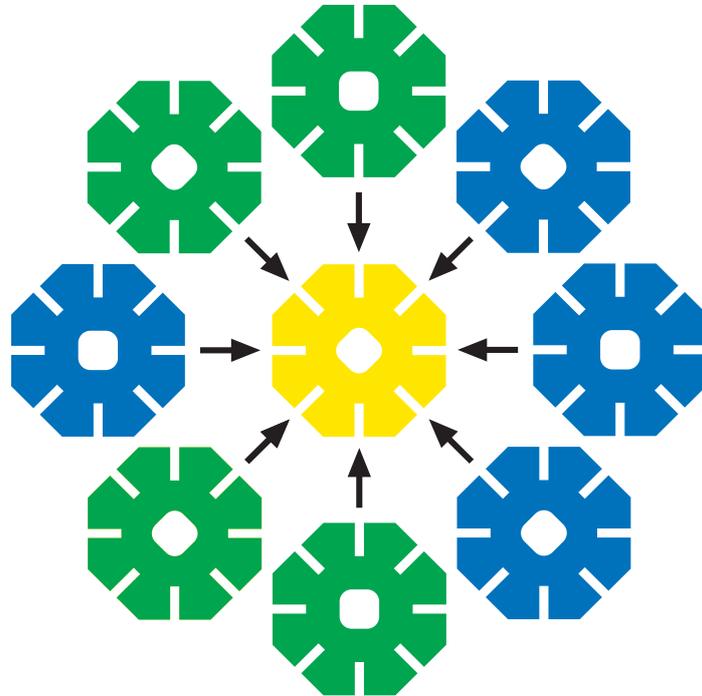


- Join more octoplays to this shape to continue the pattern of colour and shape.

## What have you made?

- Make similar shapes with different patterns of colour.

Here is a flower with a yellow centre.

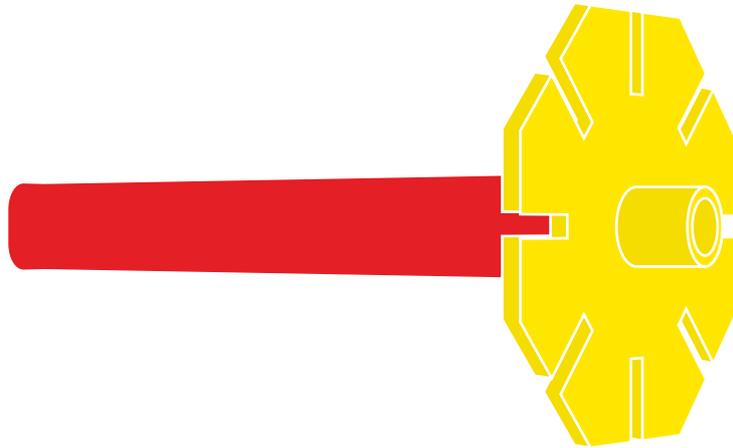


- Make this green and blue flower.
- Make a different green and blue flower, joining 4 green and 4 blue octoplays to the yellow centre.

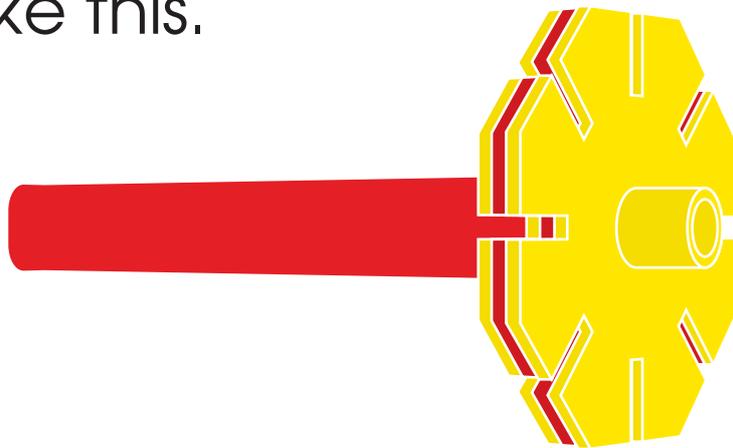
**How many different green and blue flowers can you make?**

**How many different green and blue flowers can you make, using the same 8 octoplays, if the centre does not need to be yellow?**

- Join a twin peg to a strut.



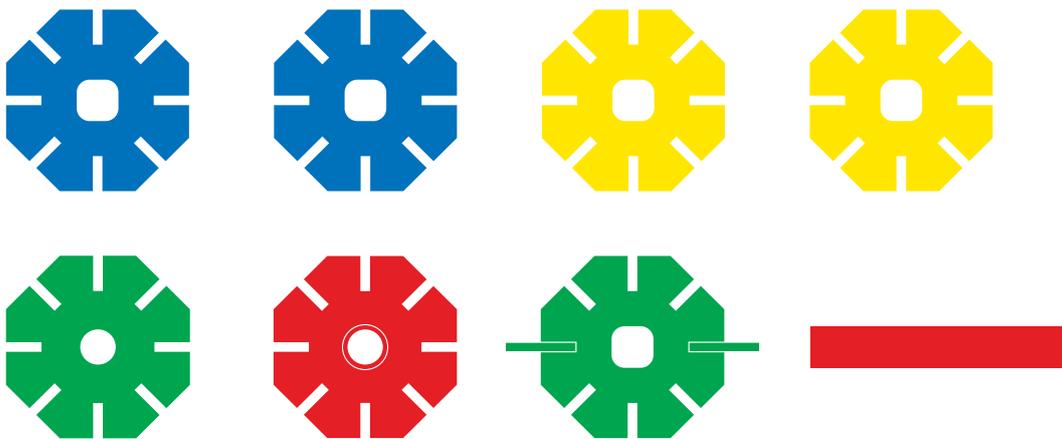
- Put a red octoplay then a yellow octoplay onto the strut to make a top like this.



- Put more octoplays onto the strut to continue a pattern.

**How many different patterned tops  
can you make starting with the  
same 3 colours?**

- Take a set of 8 pieces like this.
- Take another set of these same 8 pieces and give them to a partner.
- Ask your teacher for a desk divider.



- Divide the desk with the divider so that neither of you can see what the other is doing with the pieces.
- Join the 8 pieces to make a shape without your partner seeing your shape.
- Keeping your shape hidden, tell your partner how to join the other set of pieces so that your partner will have the same shape when all 8 pieces have been joined.
- Now let your partner build a shape and tell you how to join your 8 pieces?